2020 Census Detailed Operational Plan for:
17. Census Questionnaire Assistance (CQA) Operation

A New Design for the 21st Century

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Approvals

This CQA Detailed Operational Plan has been reviewed and approved for use.

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Document Change History

Revision #	Version	Date	Description
1	v0.03	07/05/2016	Working DRAFT Version from 2020 Census DOP template. Uses Annotated version of CQA BPM Version 3.5
2	v0.04	8/12/2016	Incorporated comments from IPT members
3	V0.05	8/24/2016	Incorporated comments from MITRE, Robin Pennington, and Sheila Proudfoot
4	V1.0	8/26/2016	Finalized document for executive review

Note: Edit the fields below to update the Document Version, Date and Status in the Page Footers throughout the document.

Document Footer Information Control Table	
DocVersion:	Version 1.0
DocDate:	September 14, 2016
DocStatus:	Final

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1. Document Purpose

The 2020 Census Detailed Operational Plan for the Census Questionnaire Assistance (CQA) Operation is intended for use by U.S. Census Bureau managers, staff, contractors, and other internal and external stakeholders working on the 2020 Census. The document presents the detailed operational design for the 2020 CQA Operation and includes a summary of the operational processes involved, their inputs, outputs and controls, and the basic mechanisms employed to conduct the operational work.

Anticipated uses of this document include the following:

- Communication – Documents operational design details for internal and external stakeholders
- Planning – Documents planning assumptions and key milestones
- Staffing – Documents staffing needs and strategies
- Design – Describes operations and flows, which inform design of IT systems, manual processes, and training
- Development – Identifies business rules and required capabilities to be developed
- Testing – Provides a basis for developing integrated test plans for IT systems and processes

This document complements the 2020 Census Operational Plan, which presents the initial baseline version of the 2020 Census operational design and covers all operations required to execute the 2020 Census, starting with precensus address and geographic feature updates and ending once census data products are disseminated and coverage and quality are measured.

This document will be updated over time to reflect changes in strategies that result from 2020 Census planning, research, and testing activities.

2. Operational Overview

2.1 Operation Purpose

Census Questionnaire Assistance (CQA) at the U.S. Census Bureau interfaces with respondents over the phone and through other customer channels to assist them with responding to and completing census questionnaires. CQA facilitates responses by fielding questions and, in some cases, by completing the interview with the respondent. With that in mind, the primary CQA goals and objectives are:

- Promote self-response on the Internet by assisting respondents who have questions or encounter technical problems with the Internet instrument.

- Provide Interactive Voice Response (IVR) self-service tools and human assistance to answer questions and resolve issues.

- Support Census Outbound Operations to verify the information submitted on a 2020 Census questionnaire.

Some examples of the typical ways that CQA will meet its goals are listed below:

- CQA will answer questions about the census questionnaire itself and deliver help to respondents who need clarification or explanation of questions on the form.

- CQA will answer respondent questions about the census processes. These could involve calls about census questionnaire status, mail pieces, media provided information, advertising, or the legitimacy of Census Bureau employees.

- CQA will offer to complete the questionnaire interview over the phone when the respondent has no Internet access and in other situations when they have a respondent on the phone who is willing to complete the interview.

- CQA will support multiple languages beyond English and Spanish. CQA will be able to assist respondents with special needs, such as the hearing impaired who communicate with a dedicated Telecommunication Device for the Deaf (TDD).

A large outsourced Contact Center Operation (CCO) will support the CQA by executing inbound (respondent assistance) and outbound operations. The inbound operations will provide two main areas or tiers of assistance:

- Tier 1 – The IVR system routes callers and provide answers to Frequently Asked Questions (FAQs) and other functions that will be defined based on outcomes of 2017 Census Test, 2017 Puerto Rico Census Test, and 2018 End-To-End Census Test.

- Tier 2 – A Customer Service Representative (CSR) is the second tier of respondent support when IVR and web-based self-service tools have not been able to answer a respondent's question. CQA CSRs will have the ability to capture respondent information.

Figure 1 shows Tier 1 (self-service) and Tier 2 (human assistance). It also illustrates CQA scope elements across these tiers.
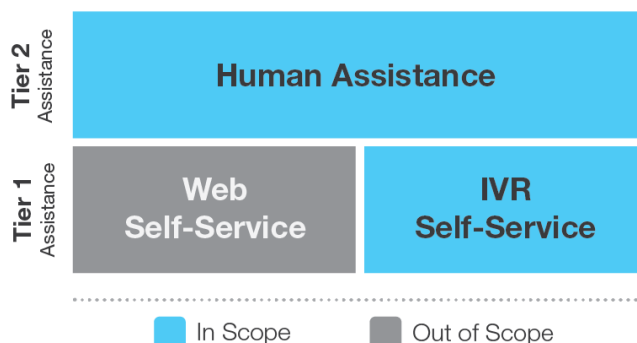
Figure 1: CQA Inbound Scope Areas

The CQA Detailed Operational Plan identifies CQA plans, components, and services that the Census Bureau requires to meet its constitutional and public policy commitments for the 2020 Census. On an ongoing basis, the CQA Detailed Operational Plan will be updated to represent the result of research, analysis, and planning by the CQA Operation Management team.

The CQA Detailed Operational Plan delves into all aspects of CQA as it pertains to the Census Bureau's 2020 Census planning, and as such, it focuses on capturing the operational and technical requirements as well as implications and operating assumptions that surround the CQA.

2.2 Background

During the 2010 Census, the TQA operation was designed to provide three primary services:

- Assistance – Provide answers to questions about the 2010 Census and to provide guidance for completing the census questionnaire

- Fulfillment requests – Take requests for census questionnaires and/or language assistance guides (LAG)

- Short form data capture – Conduct telephone interviews to collect census questionnaire information as appropriate.

In keeping with the Census 2000 baseline, the 2010 TQA operation was divided into three operational phases. The phase determined which scripts were used by the agents and within the IVR, and what activities would take place.

In phase 1, callers who provided a valid Census ID could request and receive a census questionnaire in English or one of five other languages or have their questionnaire completed by an agent during a phone interview at the caller's request. For callers without this valid Census ID, requests for questionnaires or phone interviews were not honored since the mail out had not yet been completed. LAGs were mailed with or without a Census ID.

In phase 2, all callers (with or without a valid Census ID) could request and receive a questionnaire and, if the caller requested, could have their questionnaire completed by an agent in an interview over the telephone.

In phase 3, callers could request and receive LAGs whether or not a caller provided a Census ID. Callers who provided a Census ID could have their questionnaire completed by an agent during the call if they requested it. Callers who did not have a Census ID were offered the opportunity to have a questionnaire completed for them by an agent during the call.

For the 2020 Census, the Census Bureau has planned a transition from paper census questionnaires to interactive online data collection by the Internet. Based on the results of previous census tests, the transition from paper questionnaires to Internet data collection will significantly affect the CQA workload and operations.

The Census Bureau faces many challenges around the planning and execution of the 2020 CQA operation. These include the rapid implementation of large contact centers to operate for short periods, the shift from mainly paper (in the 2010 Census) to web-based 2020 Census Operations, the lack of detailed historical data on which to base 2020 CQA contact characteristics, and the respondents' expectations of excellence across all supported contact channels.

The shift from paper to Internet-based forms will change the reasons that respondents contact the CQA contact centers. Census tests since the 2010 Census have demonstrated that the top reason respondents call for assistance is not having Internet or computer access.

Respondents using the Internet instrument will have the ability to contact CQA by web chat, email, or telephone when web-based self-service help tools cannot answer their questions. However, data collection will not be conducted by web chat or email.

Respondent phone calls to Census Bureau toll-free numbers are anticipated to remain the primary method for contacting CQA. Where feasible, an IVR system will be used to answer calls to CQA. The IVR will offer callers a number of self-service options such as FAQs as well as have the ability to route calls to appropriately skilled CSRs. The IVR will automate some tasks such as questionnaire status updates.

2.3 Design Overview

The sections below present the high-level design for CQA. Please refer to the 2020 Census Operational Plan for a complete inventory of design decisions for all 2020 Census operations.

2.3.1 High-Level Operational Design

The design of the CQA operation for the 2020 Census includes six major operational activity areas:

- CQA Planning and Preparation
- Inbound Calling Operations
- Outbound Calling Operations
- Electronic Public Correspondence
- CQA Quality Assurance
- CQA Output Delivery

Each of these major activity areas is summarized below. Together, these activities represent the complete set of work that needs to be performed to conduct this operation.

CQA Planning and Preparation

As part of the CQA planning and preparation activity, CQA will work with the contractor to develop the CQA plans for the operation. The CQA plans will involve communication and collaboration between CQA and the contractor to develop all the necessary components, requirements, and deliverables to conduct the operation. CQA will work with the contractor to establish call centers to meet the functional and workload demand.

Inbound Calling Operations

CQA call centers will receive phone calls from respondents based on various triggers, such as the receipt of a mail piece, advertisements related to responding to the census, and questions the respondent may have while completing the census questionnaire online. CQA will set the language trigger by routing the calls to the IVR or a CSR based on the language line that the respondents dialed. Depending on where the calls will be routed, CQA will process the phone requests through the IVR and/or a live agent and capture the paradata.

Outbound Calling Operations

CQA will conduct two outbound calling operations: Quality Outbound Operations (QOO) and Nonresponse Followup (NRFU)/Update Enumerate (UE) reinterviews. CQA will conduct QOO by contacting respondents who have previously completed the census questionnaire in order to resolve any inconsistency and ambiguity. CQA will conduct reinterviews for both NRFU and EU operations based on the cases provided by the Response Processing Operation (RPO).

Electronic Public Correspondence

CQA will electronically correspond with the public through the web chat and email channels. In this activity, the CSRs will provide answers to the public using scripted response. CQA will not conduct data collection on census questionnaires through the web chat and email channels.

CQA Quality Assurance

As part of the CQA Quality Assurance activity, CQA will perform quality monitoring across all three channels (telephone, web chat, and email). CQA will use recorded calls and electronic communications to judge the effectiveness of the interactions and adjust procedures, as needed. .

CQA Output Delivery

CQA will send paradata collected during the interactions with the respondents across all channels to program management as part of the CQA Output Delivery activity.

The full hierarchy of activities for the CQA operation is provided in Appendix C in the form of an Activity Tree. In the Activity Tree, each major operational activity area listed above is numbered and then decomposed into a numbered set of subactivities, some of which are further decomposed into more detailed numbered subactivities or steps.

For a full description of the operational subactivities that comprise the CQA operation, see the Detailed Process Description discussions in Section 3 below.

2.3.2   CQA Operational Context

The CQA planning and operational activities described above are conducted within the context of other 2020 Census operations and other programs or data sources that are external to the 2020 Census CQA operation. One way to depict an operational context is by using a "Context Diagram," which shows the boundary of the operational process, the operational activities it contains, and the information exchanged with its neighbor operations (or other entities) as well as the resources (mechanisms) needed to conduct the operational work. Figure 2 is a top-level context diagram for the CQA operation represented as an Integrated Definition, Level 0 (IDEF0) model.
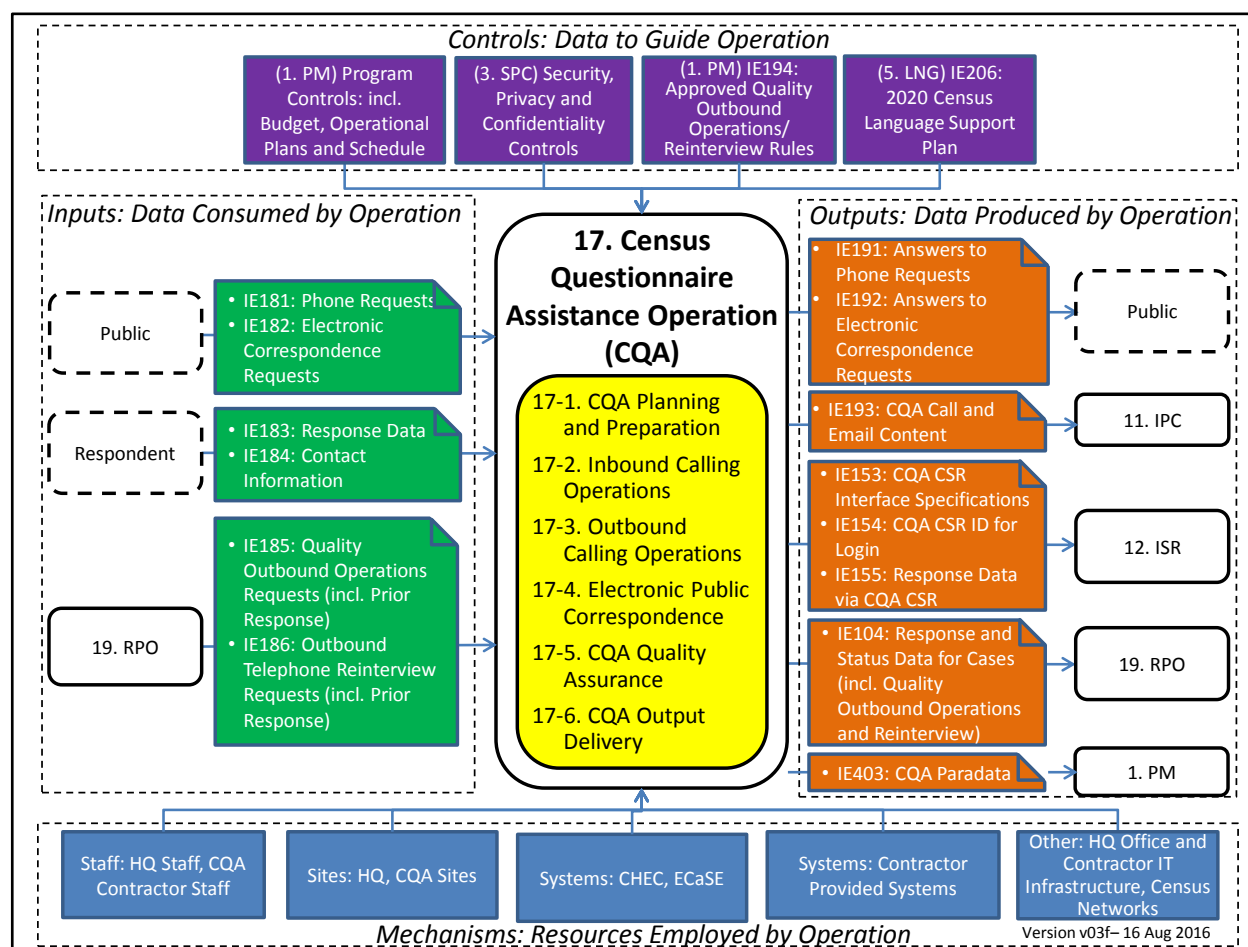
Figure 2: CQA Context Diagram

An IDEF0 Model of a process (or operation) shows the Inputs, Controls, Outputs, and Mechanisms of the process. These IDEF0 model elements are summarized below and described further in the sections that follow.

The yellow box in the center of the IDEF0 model lists the major operational activity areas for the operation, numbered as given in the CQA Operation Activity Tree in Appendix C. Specific Information Exchanges (IE) are shown in different colored boxes to represent the Inputs (green boxes on left side), Outputs (orange boxes on right side), Controls (purple boxes on top) and Mechanisms (blue boxes on the bottom). Boxes to the left of the Inputs indicate the *Provider* of the inputs to the operation (typically another 2020 Census operation or an external source). The Provider of the Controls is noted in the box itself. Boxes to the right of the Outputs indicate the *Receiver* of the outputs (typically another 2020 Census operation or external entity). Each Information Exchange has a name and a unique number for identification purposes.

For detailed descriptions of the Inputs, Controls, Outputs and Mechanisms used by the CQA operation, see the sections that follow.

2.3.2.1   CQA Operational Inputs

Inputs are the data that are consumed by the operation. The inputs define the amount of operational work that needs to be performed.

Table 1 lists the inputs to the CQA operation.

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Table 1: CQA Operational Inputs

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Provider	Information Exchange	Description
Public	IE181: Phone Requests	Respondents make telephone calls to request information about the 2020 Census. These requests can cover any topic, including general questions about the 2020 Census, questions about census processes, questions about specific fields and questions on the census questionnaire, and questions about how to complete the census by different modes, such as the Internet instrument and paper questionnaire.
	IE182: Electronic Correspondence Requests	Electronic correspondence (e.g., email, web chat) from respondents asking for information or answers to questions about the 2020 Census. These requests can cover any topic, including general questions about the 2020 Census, questions about census processes, questions about specific fields and questions on the census questionnaire, and questions about how to complete the census by different modes, such as the Internet instrument and paper questionnaire.
Respondent	IE183: Response Data	Data provided by the respondent in response to census questions. For CQA, this includes information provided to the CQA Agent.
	IE184: Contact Information	Contact information (e.g., telephone numbers and email addresses) provided by respondents for follow-up when answering questions.

Provider	Information Exchange	Description
19. Response Processing Operation (RPO)	IE185: Quality Outbound Operations Requests (incl. Prior Response)	Requests for follow-up outbound calls for specific cases as identified in the Response Processing Operation based on quality follow-up criteria. These requests include case identification information, contact information, prior response data, and all other data needed by the CQA CSR to conduct the outbound call.
	IE186: Outbound Telephone Reinterview Requests (incl. Prior Response)	Requests for telephone reinterview for cases for which response data were collected during either the Nonresponse Followup (NRFU) or Update/Enumerate (UE) operations. Quality control processes in NRFU and UE determine the need for reinterview and send that information to the Response Processing operation, which in turn sends the requests for reinterview cases to the CQA operation. The requests include case identification information, contact information, prior response data, and all other data needed by the CQA CSR for conducting the telephone reinterview.

2.3.2.2   CQA Operational Controls

Controls are the data that guide the behavior of the operation. They are not consumed by the operation, but rather they provide guidance, models, limits, criteria, cutoff dates, or other information that controls the way in which the operational work is performed.

Table 2 lists the controls for the CQA operation.

<p align="center">**Table 2: CQA Operational Controls**</p>

Provider	Information Exchange	Description
1. Program Management Operation (PM)	Program Controls	Program Control information includes: • CQA Requirements Management • CQA Operation Timeline and Schedule • CQA Change Management • CQA Security Management • CQA Postoperations Analytics • CQA Performance Management • CQA Quality Management • CQA Contact Analytics and Reporting • CQA Workload/Workforce Management • 2017 Census Test and 2018 End-to-End Census Test Lessons Learned • CQA Deliverable Review • Award Fee & EVMS Management • Service Level Agreements & Quality Management • Invoices, Budget & Financial Management
	IE194: Approved Quality Outbound Operations/ Reinterview Rules	Business rules approved by the 2020 Census Program Management operation that define the process and script to be used by CQA CSRs when performing quality outbound operations for Failed Edits and reinterview cases.
3. Security,	Security, Privacy and	Laws, policies, regulations, and guidelines

Provider	Information Exchange	Description
Privacy, and Confidentiality Operation (SPC)	Confidentiality Controls	related to physical security, IT security, data security, and privacy and confidentiality impacts, analyses, and processes. These include but are not limited to Title 13, Title 26, and other laws and policies related to protection of personally identifiable information.
5. Language Services Operation (LNG)	IE206: 2020 Census Language Support Plan	Plan to describe the number of languages and level of support for each language that will be included in the 2020 Census is being developed. To be issued by late 2017. This Language Support Plan will be used by the CQA operation as part of the planning and preparation activities to determine requirements for language skills of CQA CSRs and the processes for handling language needs during inbound and outbound calls.

2.3.2.3   CQA Operational Outputs

Outputs are the data produced by the operation. The outputs constitute the results of operational work that has been performed. Outputs produced may be used as inputs or controls to other operations.

Table 3 lists the outputs from the CQA operation.

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Table 3: CQA Operational Outputs

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Consumer	Information Exchange	Description
Public	IE191: Answers to Phone Requests	Telephone assistance provided by CQA CSRs to answer respondents' questions or requests for information. These include major CQA call types in the following categories: • CQA Data Capture • Questionnaire Help • Nonquestionnaire Help
	IE192: Answers to Electronic Correspondence Requests	Web chat and email assistance is provided by CQA CSRs to answer respondents' questions or requests for information by web chat and email. These include major CQA contact types in the following categories: • Questionnaire Help • Nonquestionnaire Help
11. Integrated Partnership and Communications Operation (IPC)	IE193: CQA Call and Email Content	Information about the content of emails and telephone calls received by the Census Questionnaire Assistance Center and other customer service centers. This information is used to determine the kinds of problems and issues people are having in completing the census questionnaire so that communications can be adjusted, where appropriate, to address these issues.

Consumer	Information Exchange	Description
12. Internet Self-Response Operation (ISR)	IE153: CQA CSR Interface Specifications	Specifications for the CQA CSR interface for the Internet instrument. This interface is used when a CQA CSR conducts a telephone interview to collect response data from someone who has called in with a question. The CQA CSR Interface is formatted differently from the interface used by the public to respond. It is optimized to facilitate data capture over the telephone and reduce the amount of time required to complete the census questionnaire or provide other information.
	IE154: CQA CSR ID for Login	Unique Internet instrument login identification number used by CQA CSRs when conducting telephone interviews with respondents. This unique CQA CSR identifier is used for census questionnaire tracking and quality measurement.
	IE155: Response Data by CQA CSR	Data entered by the Internet instrument by the CQA CSR on behalf of a respondent.
19. Response Processing Operation (RPO)	IE104: Response and Status Data for Cases (incl. Quality Outbound Operations and Reinterview)	Data that result from the enumeration of cases and the associated status information. For this operation, response and status data that meet specific criteria are provided for Census Outbound Operations calls (i.e., Failed Edits and reinterview cases).

Consumer	Information Exchange	Description
1. Program Management Operation (PM)	IE403: CQA Paradata	Status and progress data related to the CQA operation. CQA paradata includes metrics about calls and electronic correspondence (e.g., volume and timing of calls as well as the types of questions and topics covered), metrics on number of calls that resulted in the CQA CSRs collecting the response data, and other information about the processing of the outbound calls.

This data may include information captured by the telephone Automatic Call Distributor (ACD) or the CSR Desktop Application, such as the originating phone number by Automatic Number Identification (ANI), Contact Type, Date/Time, Call Transfer Indicator, Transfer Reason, Language, IVR and/or CQA CSR call duration and other information that may be associated with response data. |

2.3.2.4 CQA Operational Mechanisms

Mechanisms are the resources (people, places and things) that are used to perform the operational processes. They include Staff Resources, Infrastructure Sites, and Systems and other Technology Infrastructure.

2.3.2.4.1 Staff Resources

Table 4 identifies the Staff Resources employed for the CQA operation.

Table 4: Staff Resources used within CQA Operational Activities

Staff Resources	Description/Role

HQ Staff	CQA Project Management Office (PMO) Staff to manage the CQA operation and coordinate activities with the CQA Contractors.
	
	• CQA Operation Management Office
	  o Business Management
	  o Contact Center Channel Management
	  o Facility, Security and Infrastructure Management
	  o Contract Management
	• Census Acquisitions Division

CQA Contractor Staff	The staff provided by the contractor who provides primary support for the CQA operation. This includes managers, supervisors, and CQA CSRs responsible for all CQA operations. This will include the CQA Contractors staff assigned to functions at:
	
	• PMO
	  o Information Security
	  o Contact Center Technology
	  o Change Management
	  o SOP and Methods
	• Human Resources Training Development & Delivery
	• Contact Center Operations
	  o Contact Center Command Center
	    ▪ Performance Management
	    ▪ Workforce Management
	    ▪ Quality Management
	    ▪ Contact Analytics
	    ▪ Reporting Analytics

Staff Resources	Description/Role
	o Contact Center CSRs

2.3.2.4.2 Infrastructure Sites

Table 5 identifies the Infrastructure Sites employed for the CQA operation.

Table 5: Infrastructure Sites for CQA Operational Activities

Infrastructure Site	Description/Role
HQ	HQ Site for Office Work.
CQA Sites	**Contractor's PMO Facility**: Management of the CQA contractual obligation and coordination with the Census Bureau. **Test Facility**: Facility and systems used to develop and test solutions before introduction into the operational environment. **Contact Center Sites**: Physical contact center facilities housing CQA CSRs and supervisors. **Data Centers**: Facilities hosting IT and contact center infrastructure.

2.3.2.4.3 Systems and other Technology Infrastructure

Table 6 identifies the Systems employed for the CQA operation.

Table 6: Systems used within CQA Operational Activities

System	Description
Interactive Voice Response (IVR)	The IVR is the initial point of entry into CQA for all respondents that dial the toll-free numbers. The IVR will understand speech (natural language speech or structured voice recognition). The IVR will offer self-service help to the respondent as FAQs or another self-service option such as providing the caller with their census questionnaire status.
Census Hiring and Employment Check System (Fingerprinting) (CHEC)	Administrative system that automates clearance processing of all personnel at Census Bureau headquarters, the Bureau of Economic Analysis (BEA), the regional offices (ROs), the National Processing Center (NPC), and two Computer Assisted Telephone Interview (CATI) sites. Supports fingerprint processing with the Federal Bureau of Investigation (FBI), the Office of Personnel Management (OPM), the Department of Homeland Security (DHS), the Office of Management and Budget (OMB) and the Department of Commerce (DOC). This system will be used to clear contractor staff that will manage and operate the CQA centers.
Enterprise Censuses and Survey Enabling Platform (ECaSE)	The Internet instrument is a secure web-based framework for the design, delivery, and execution of surveys, censuses, and other data collection and data exchange efforts over the Internet. This system will be used by CQA CSRs to complete the census questionnaire with respondents over the phone. Web chat buttons located on the website supporting the census questionnaire will allow respondents to access a CQA CSR when pressed/clicked. Enterprise solution that provides the following functionality: • Supports field data collection for address listing/mapping and enumeration work. • Creates and manages the universe for all enumeration operations. • Maintains operational workloads as data collection proceeds. • Supports work assignment and schedule management for field data

System	Description
	collection operations for in-office and mobile users. • Supports self-response data collection by the Internet for survey and census respondents and for call center agents on behalf of respondents. • Supports questionnaire design and metadata maintenance. For CQA, ECaSE is used for email and chat support as part of Internet Self-Response data collection.
Contractor Provided Systems	The following list of systems will be provided by the CQA contractor: • Interactive Voice Response (IVR) • CSR Desktop Application • Knowledge Management System • Multichannel Inbound Contact Routing • Multichannel ACD • Automated Outbound Dialing System • Outbound Case Management • Workforce Management System (WFM) • Quality Management System & Contact Analytics System • Performance Management System • Speech/Text/Screen Analytics System • Management Reporting System (MRS) • Toll-Free Telephone Service (Census owned and provided) For more details, please refer to Appendix G – Contractor Provided Systems Details.

2.4   CQA Data Flow and Operational Influences

Note to Reader: An Integrated Operations Diagram (IOD) for the data collection operations is being developed as part of the Response Processing Operation (RPO) DOP, which will not be completed until fiscal year 2017. This diagram, which will show the flow of information among all of the data collection operations, is intended to help the reader understand how this operation fits into the bigger picture. The Data Collection IOD will be added as Figure 3 *in the next release of this document.*

Data Collection IOD to be inserted here at a later date

Figure 3: 2020 Census Data Collection - Integrated Operations Diagram (IOD)

2.5   CQA Design Assumptions

The CQA PMO team will validate or change assumptions as new information becomes available through research and testing and as the Census Bureau's 2020 Census Operational Plans move toward full maturity.

2.5.1   Key CQA Design Assumptions

Key Assumptions include:

- CQA will support reinterview operations for both Nonresponse Followup and Update Enumerate.
- 5.3 percent of households will provide data to CQA through the telephone channel.
- IVR will handle the majority of the inbound calls by answering FAQs from respondents. Calls resolved by the IVR will not need to be handled by CSRs.
- Response data will not be collected by the IVR or web chat.

3. Census Questionnaire Assistance Operation (CQA) Detailed Process Description

Figure 4 is a top-level Business Process Model (BPM) showing the Level 1 activity areas within the CQA operation. BPMs for the 2020 Census follow industry-standard Business Process Model and Notation (BPMN). Refer to Appendix D for an explanation of how to read the BPMN notations and a copy of all of the BPMN diagrams for this operation.

This top-level BPM serves as the Context Model for the CQA operation. A BPMN Context Model displays the high-level activities within the operation and relationships between them, whereas the IDEF0 Context Diagram shown earlier depicts the boundaries of the operation or activity and the interfaces between the operation or activity and other operations and activities with which it is associated.
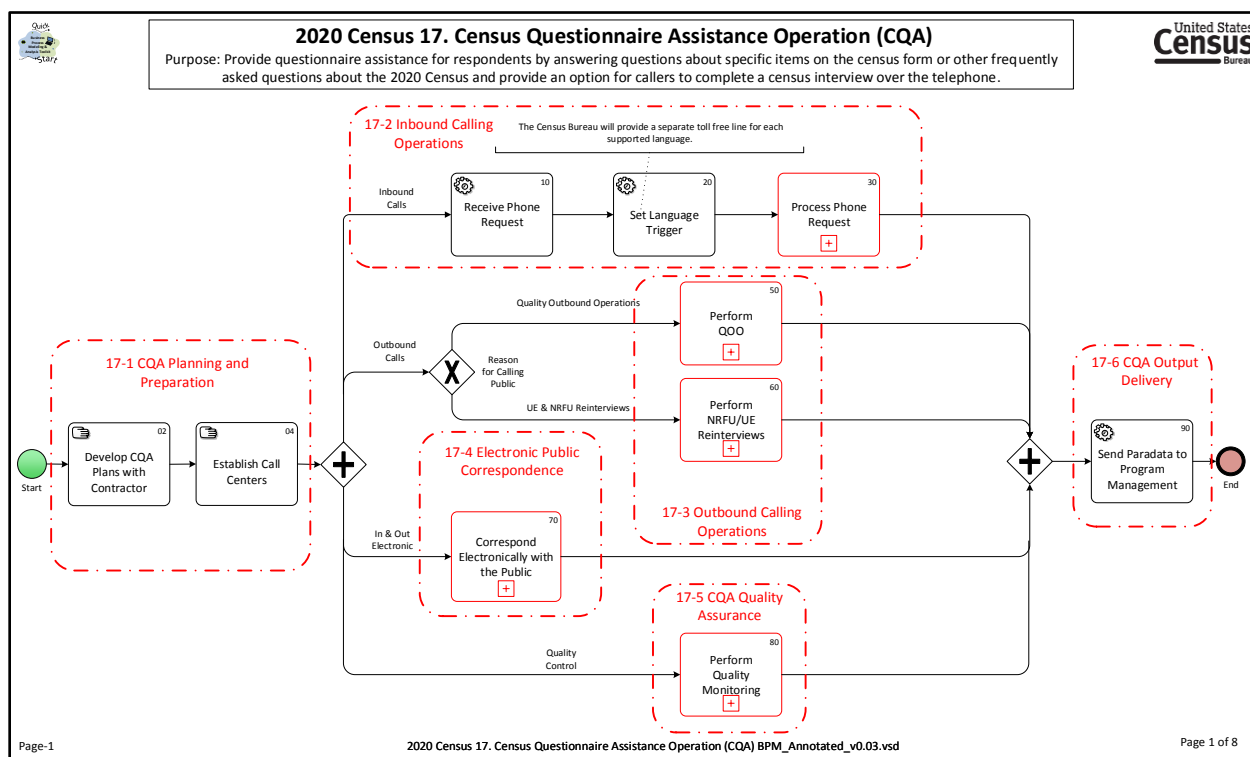
Figure 4: CQA Operation Context Model

The CQA Operation is subdivided into the following Activity Areas.

- CQA Planning and Preparation [CQA 17-1]

- Inbound Calling Operations [CQA 17-2]

- Outbound Calling Operations [CQA 17-3]

- Electronic Public Correspondence [CQA 17-4]

- CQA Quality Assurance [CQA 17-5]

- CQA Output Delivery [CQA 17-6]

The business processes for each of these Level 1 activity areas are discussed along with their inputs and outputs in the following subsections.

3.1 CQA Planning and Preparation [CQA 17-1]

Figure 5 shows the BPM for the CQA Planning and Preparation [CQA 17-1] activity area (area within the shaded gray rounded rectangle) and its constituent activities within the overall context of the CQA operation.

Figure 5: CQA Planning and Preparation [CQA 17-1] Constituent Activities

The CQA Planning and Preparation activity area is subdivided into the following operational subactivities.

- CQA Planning and Preparation [CQA 17-1]
    - Develop CQA Plans with Contractor [CQA 17-1.1]
    - Establish Call Center [CQA 17-1.2]

The CQA Acquisition activity began in October 2014 and is still underway. The CQA Contract was awarded to a contractor in July 2016. Many of these planning and preparation activities involve knowledge and information transfer from the 2CQA PMO Team to the CQA contractor.

The subsequent sections describe the CQA Planning and Preparation operational subactivities in detail.

3.1.1   Develop CQA Plans with Contractor [CQA 17-1.1]

Planning and preparation activities involve collaborative development between the CQA PMO and the CQA contractor. These activities will set the stage for a high degree of ongoing communication and collaboration around the CQA operation components, requirements, and deliverables.

3.1.2   Establish Call Center [CQA 17-1.2]

The CQA contractor will create and size the CQA contact center to meet functional and workload demand of the CQA Phases as follows:

1. 2017 Census Test
2. 2018 End-to-End Census Test
3. 2020 Census CQA Operations

3.2   Inbound Calling Operations [CQA 17-2]

Figure 6 shows the BPM for the Inbound Calling Operations [CQA 17-2] activity area (area within the shaded gray rounded rectangle) and its constituent activities within the overall context of the CQA operation.
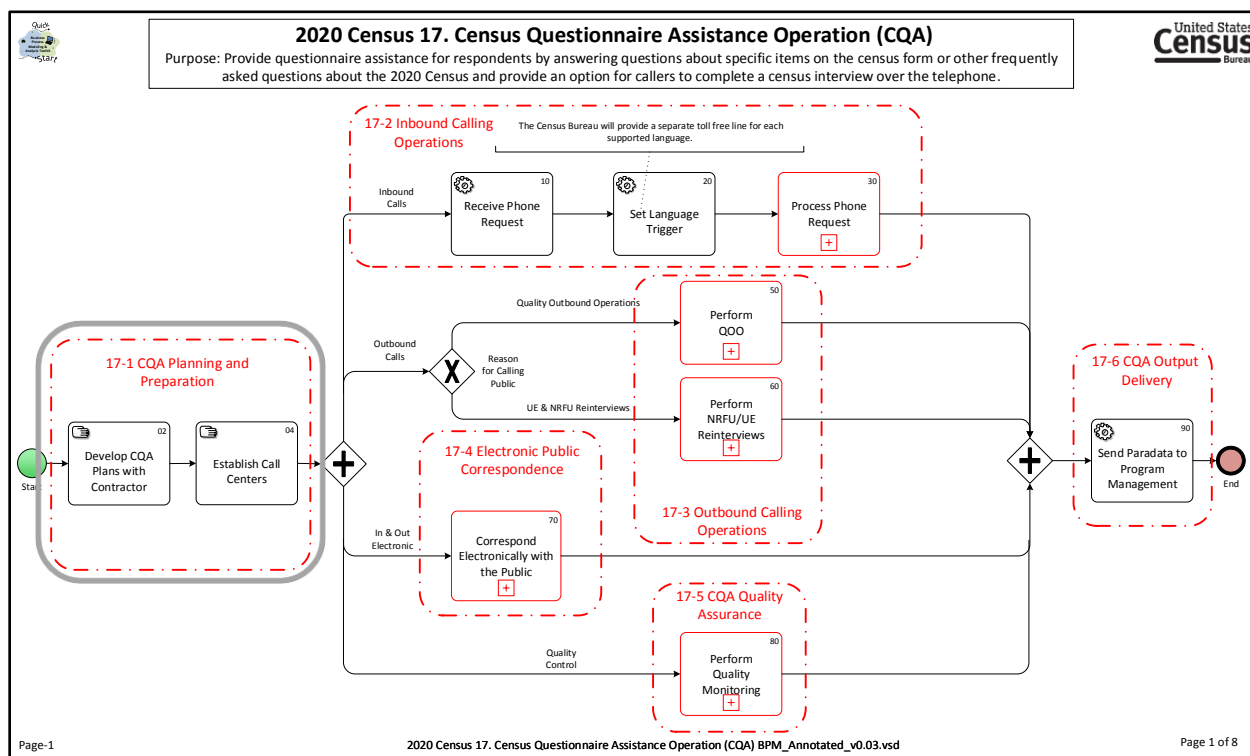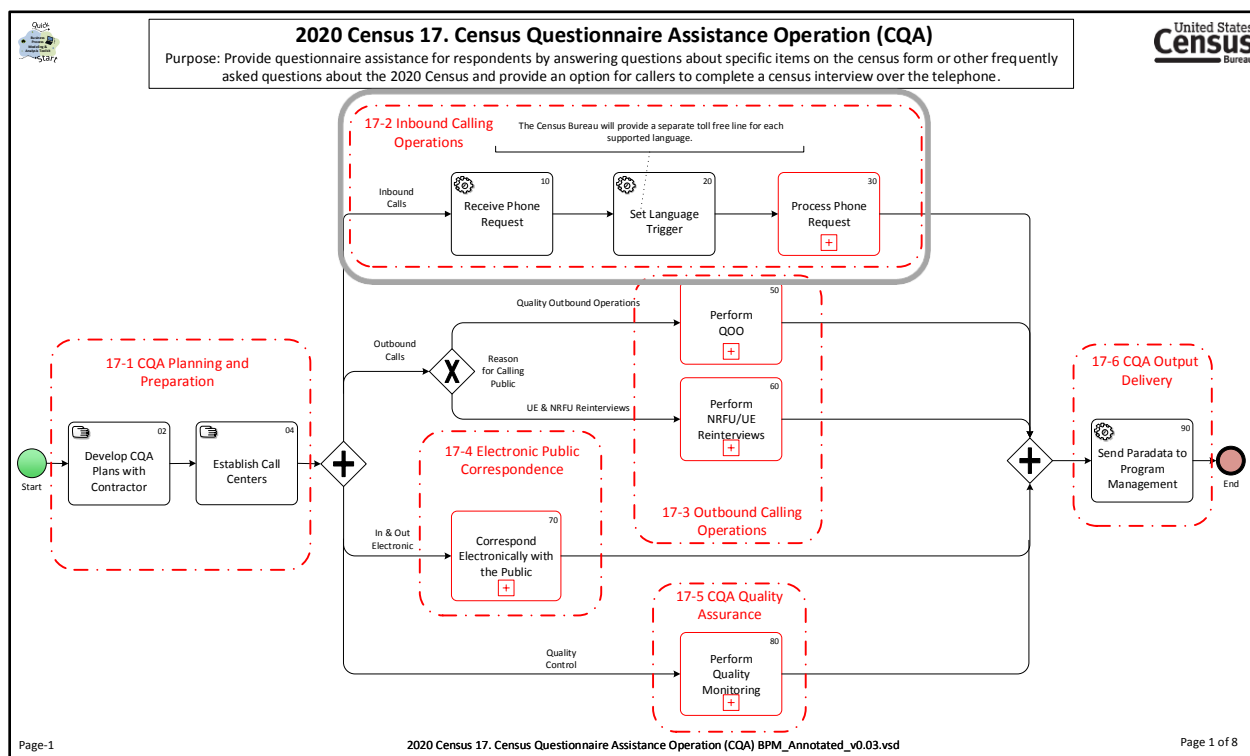

Figure 6: Inbound Calling Operations [CQA 17-2] Constituent Activities

The Inbound Calling Operations activity area is subdivided into the following operational subactivities.

- Inbound Calling Operations [CQA 17-2]
    - Receive Phone Request [CQA 17-2.1]
    - Set Language Trigger [CQA 17-2.2]
    - Process Phone Request [CQA 17-2.3]

The subsequent sections describe the Inbound Calling Operations operational subactivities in detail.

3.2.1   Receive Phone Request [CQA 17-2.1]

 Calls originate based on some trigger, such as:

- Receipt of a mail piece (postcard directing respondents to the Internet based census questionnaire or a paper census questionnaire);
- Advertisement related to responding to the Census (traditional national or local media or targeted Internet, email or Text/SMS ads);
- Questions the respondent may have while attempting to complete the census questionnaire online or by paper questionnaire;
- Technical issues that prevent self-response, which may include technical problems responding by the Internet, lack of computer or Internet access, and Internet or process-related issues; and
- General questions about the 2020 Census.

The respondent will call a toll-free number from the Census website or printed-on-paper material. Toll-free numbers are unique to each language that CQA supports. Material printed in each language will have the CQA toll-free number for that language printed on it to ensure that the respondent can reach that language's specific support.

3.2.2   Set Language Trigger [CQA 17-2.2]

Calls initiated by the respondents are answered by the CQA IVR, which reads the toll-free number that was called and tags the call with the language indicator based on the dialed toll-free number. All subsequent IVR and CQA CSR communication with the caller is based on the language indicator, which remains associated with the call as paradata.

3.2.3 Process Phone Request [CQA 17-2.3]

The "Process Phone Request" operational subactivity is subdivided into the following constituent activities.

- Process Phone Request [CQA 17-2.3]
    - Process IVR Phone Request [CQA 17-2.3.1]
    - Process Live Agent Phone Request [CQA 17-2.3.2]
    - Capture Phone Request Paradata [CQA 17-2.3.3]

A detailed view of the constituent activities that make up the "Process Phone Request" operational subactivity is given in Figure 7 below.
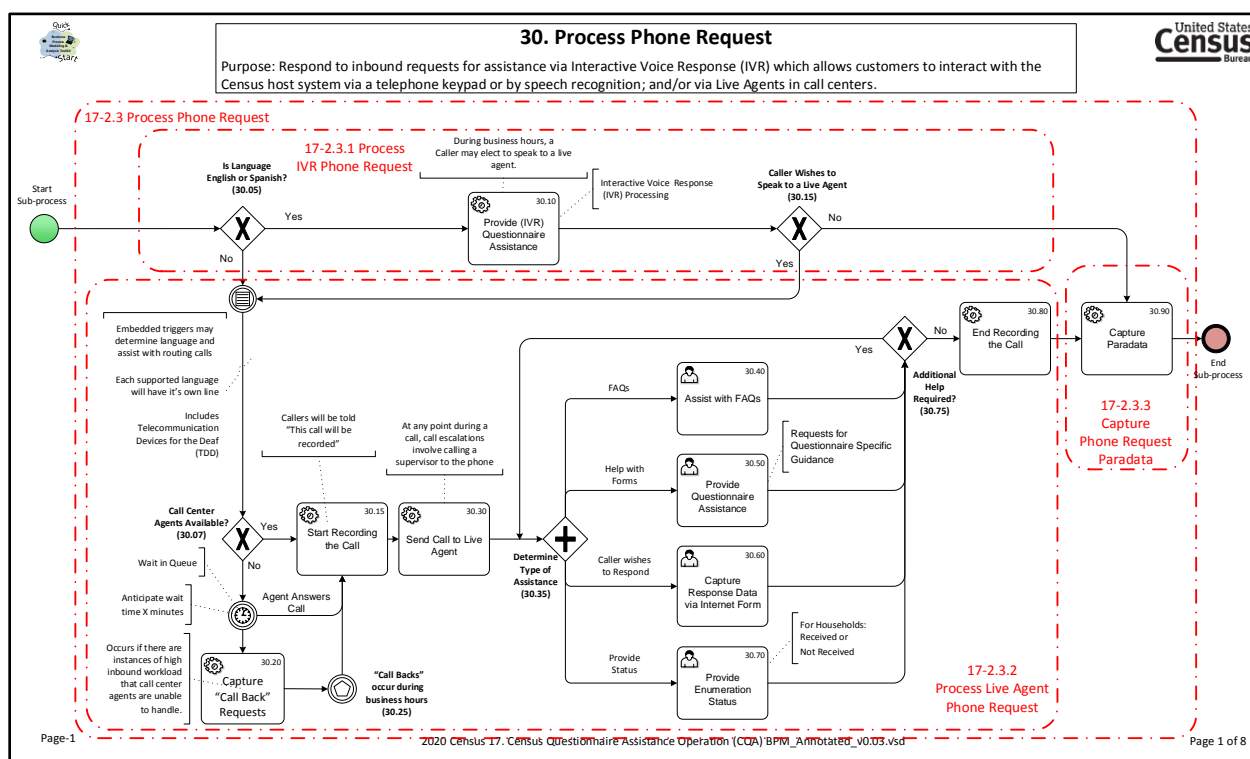
Figure 7: Process Phone Request

3.2.3.1 Process IVR Phone Request [CQA 17-2.3.1]
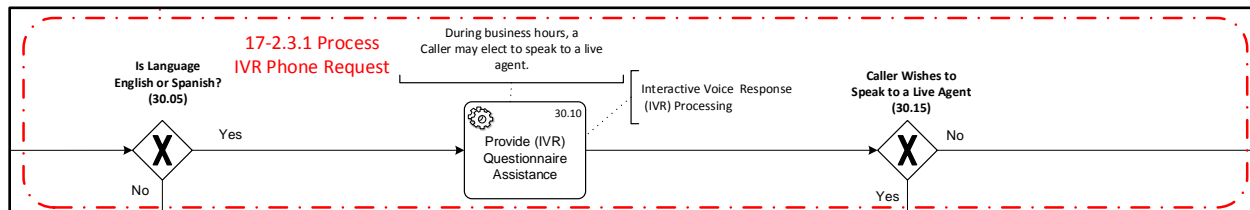
Figure 8: Process IVR Phone Request

All calls will pass through the IVR before reaching a CQA CSR. In the case of English and Spanish calls, the IVR will offer options for FAQs to answer questions related to questionnaire and nonquestionnaire assistance calls. Languages other than English and Spanish will be directed to the appropriate language skill group. English and Spanish callers may opt out of the IVR at any time during CQA operating hours and speak with a CQA CSR. If a CQA CSR is not available, the caller is placed in the proper skill group queue to wait for an available CSR.

The IVR will set the language indicator for every call based on the toll-free number the caller dialed. The IVR automated service will provide support to callers in English and Spanish only. Callers with language indicators other than English and Spanish will be transferred to a CQA CSR with the appropriate skill set.

The IVR will be available to assist callers twenty-four hours a day, seven days a week. Callers may opt out of the IVR to speak with a CQA CSR any time during CQA contact center operational hours.

English and Spanish callers that choose to leave the IVR and speak with a CQA CSR and all calls with a language indicator other than English or Spanish will be sent directly to an appropriately skilled CQA CSR pool. The IVR will determine the call type before transfer, and this information will remain associated with the call paradata.

3.2.3.2   Process Live Agent Phone Request [CQA 17-2.3.2]
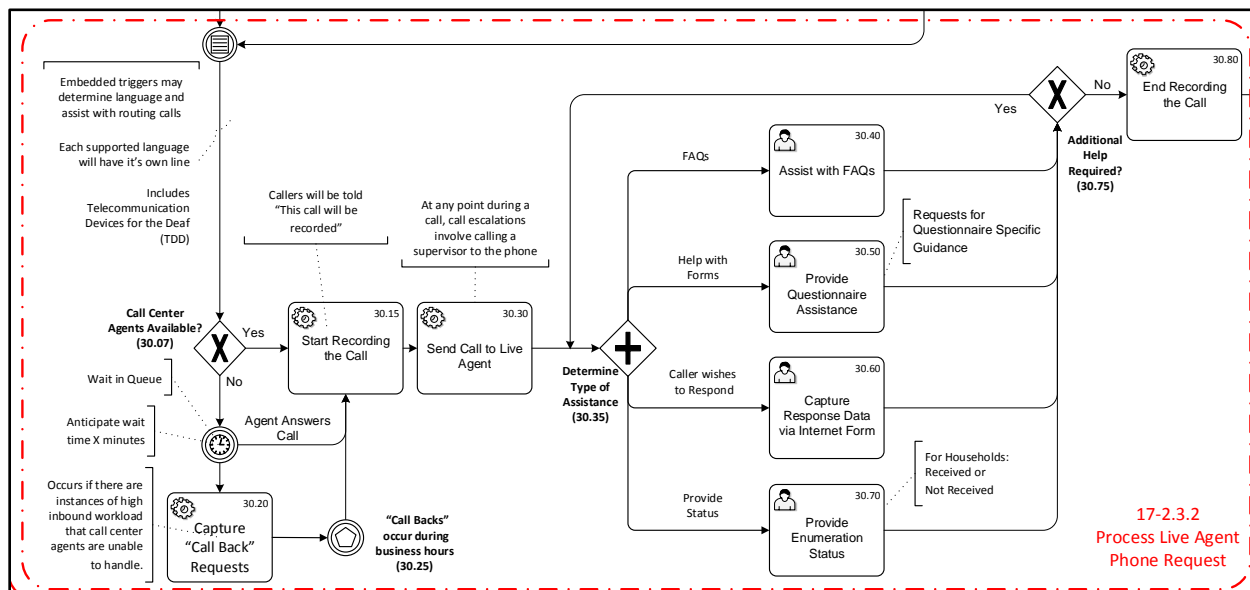
Figure 9: Process Live Agent Phone Request

Treatment in Queue and Announcements to Callers

- Callers placed in a queue will hear recorded messages in the appropriate language as they wait for a CSR.
- When queue length and expected wait times exceed a predetermined threshold, the callers can opt to receive a call back.
- All callers, even those not placed in queue, will hear some announcements, such as a greeting that thanks the respondent for calling CQA.
- For callers trying to reach a CQA CSR outside of normal operating hours, a closed announcement will notify the caller of the normal CQA operating hours and schedule.

The CQA CSR Call Script will cover all aspects of processing a telephone call. This multilevel script contains branching logic and addresses the three major call categories:

- Respond by Phone
- Questionnaire Specific Assistance
- Nonquestionnaire Specific Assistance or FAQ

The CQA CSR will follow a predetermined call script to determine or verify the type of assistance the caller requires.

The CQA CSR Call Script will standardize all components of a phone call across the three call types and contains standard call openings and closing that increase CSR control of the call.

3.2.3.3   Capture Phone Request Paradata [CQA 17-2.3.3]
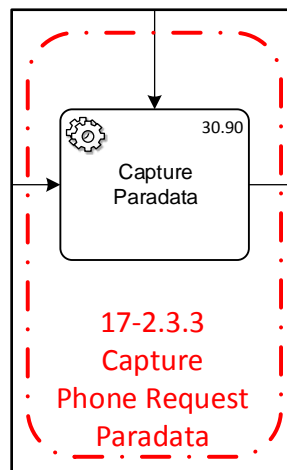
Figure 10: Capture Phone Request Paradata

Although not a part of the call itself, meaningful information is associated with a call, and access to it will allow a greater degree of insight into respondent behaviors and CQA Operations. Paradata is information about the call that may include:

- Automatic Number Identification
- Language Indicator
- Call Type
- Date and Time
- Call Length
- Repeat Caller
- Number of Transfers
    - Transfer Reason
- Escalation Flag
- IVR Handled
- CSR Handled

        ○   Point of Exit in IVR
- IVR and CSR Handled
  - ○ Point of Exit in IVR

Paradata will come from sources other than the call handling application, including:

- The CQA Desktop Application
- Census Outbound Operations' Case Management System
- IVR Menu Selections and Navigation
- Intelligent Queueing or Callback Options
- Outbound Dialer Information
- Verizon Toll-Free Network
- Automatic Call Distributor
- Quality Management System
- Contact Analytics System

3.3   Outbound Calling Operations [CQA 17-3]

Figure 11 shows the BPM for the Outbound Calling Operations [CQA 17-3] activity area (area within the shaded gray rounded rectangle) and its constituent activities within the context of the overall CQA operation.
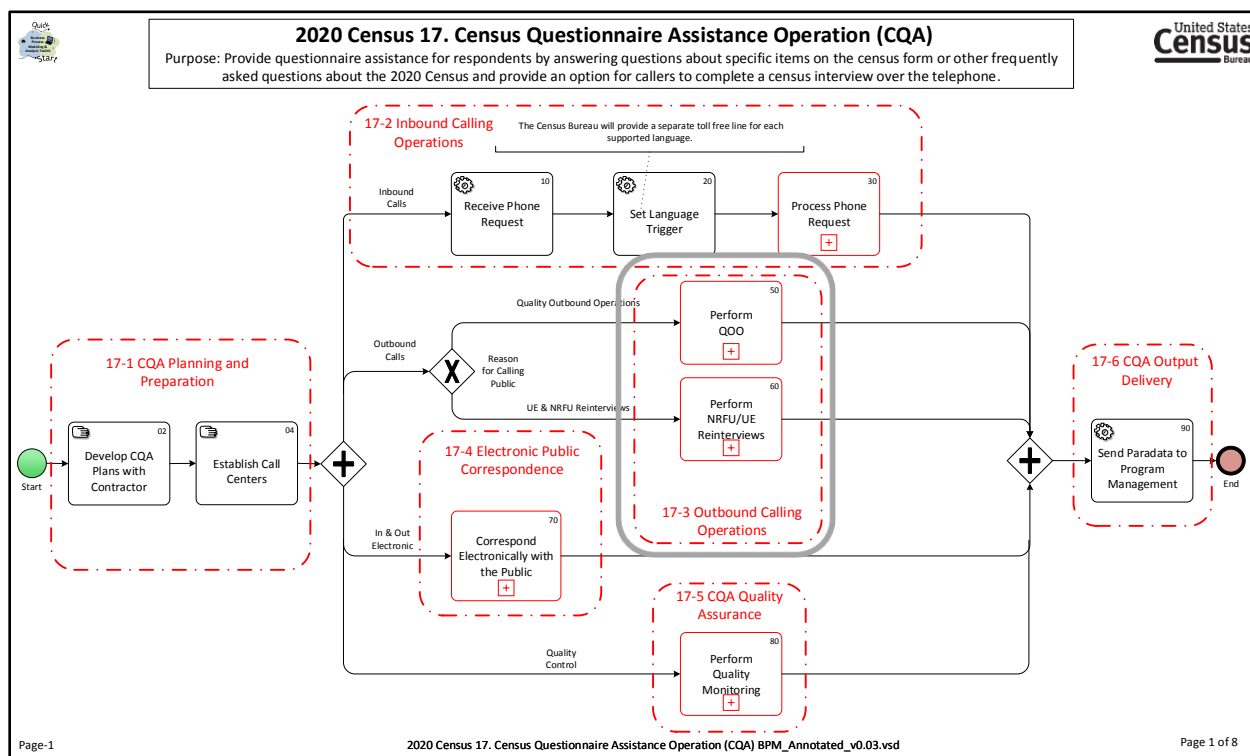
Figure 11: Outbound Calling Operations [CQA 17-3] Constituent Activities

The Outbound Calling Operations activity area is subdivided into the following operational subactivities. There are two major classes of outbound cases that fall under Census Outbound Operations:

- Census Outbound Operations [CQA 17-3]
    - Perform Quality Outbound Operations (QOO) [CQA 17-3.1]
    - Perform NRFU/UE Reinterviews [CQA 17-3.2]

The subsequent sections describe the Outbound Calling Operations operational subactivities in detail. As stated above the two high level categories of outbound cases are Quality Outbound Operations (Failed Edits) cases and reinterview cases.

Criteria that cause case creation for Quality Outbound Operations and reinterview cases have not been established at this point.

3.3.1   Perform Quality Outbound Operations [CQA 17-3.1]

A detailed view of the constituent activities that make up the "Perform Quality Outbound Operations" operational subactivity is given in Figure 13 below.
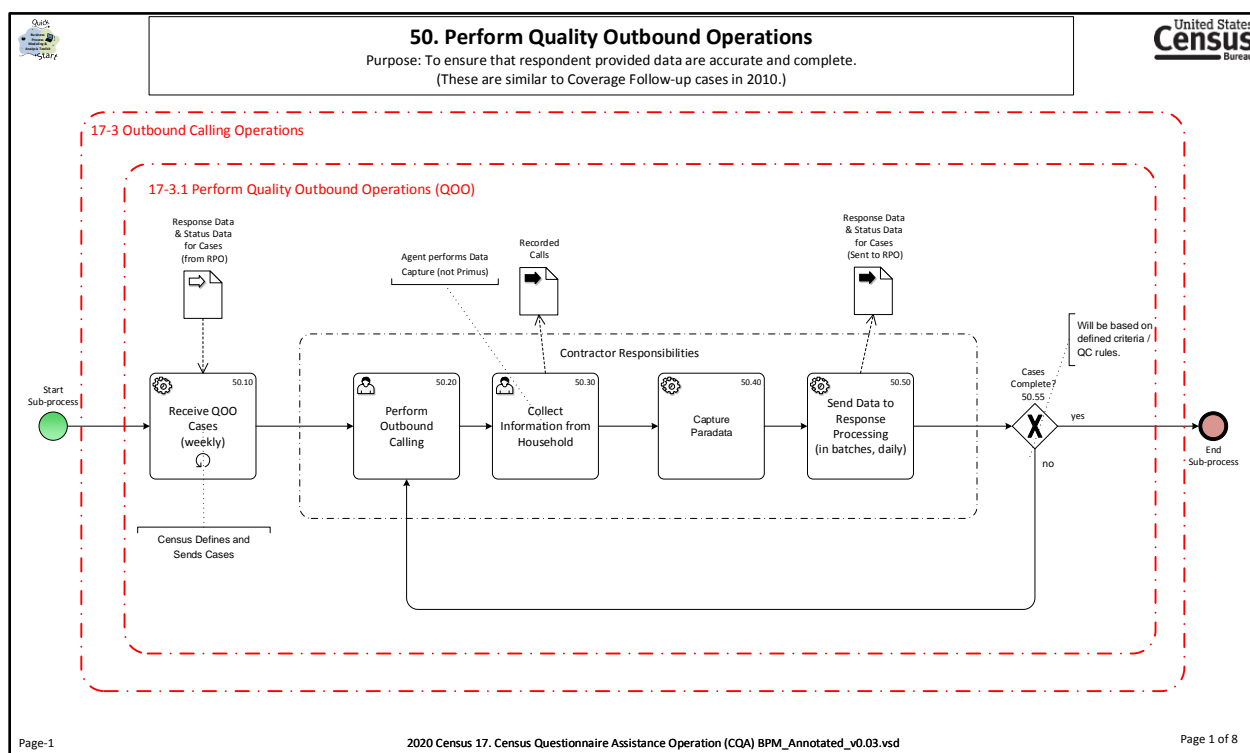
Figure 12: **Perform Quality Outbound Operations**

These types of cases, also called Failed Edits, are created to resolve any inconsistency or ambiguity in a previously completed census questionnaire. The Census Bureau will create Quality Outbound Operations cases based on business rules and send them to the CQA contractor for processing. Business rules around QOO case creation criteria and QOO SOP for execution need to be developed.

3.3.2 Perform NRFU/UE Reinterviews [CQA 17-3.2]

A detailed view of the constituent activities that make up the "Perform NRFU/UE Reinterviews" operational subactivity is given in Figure 13 below.
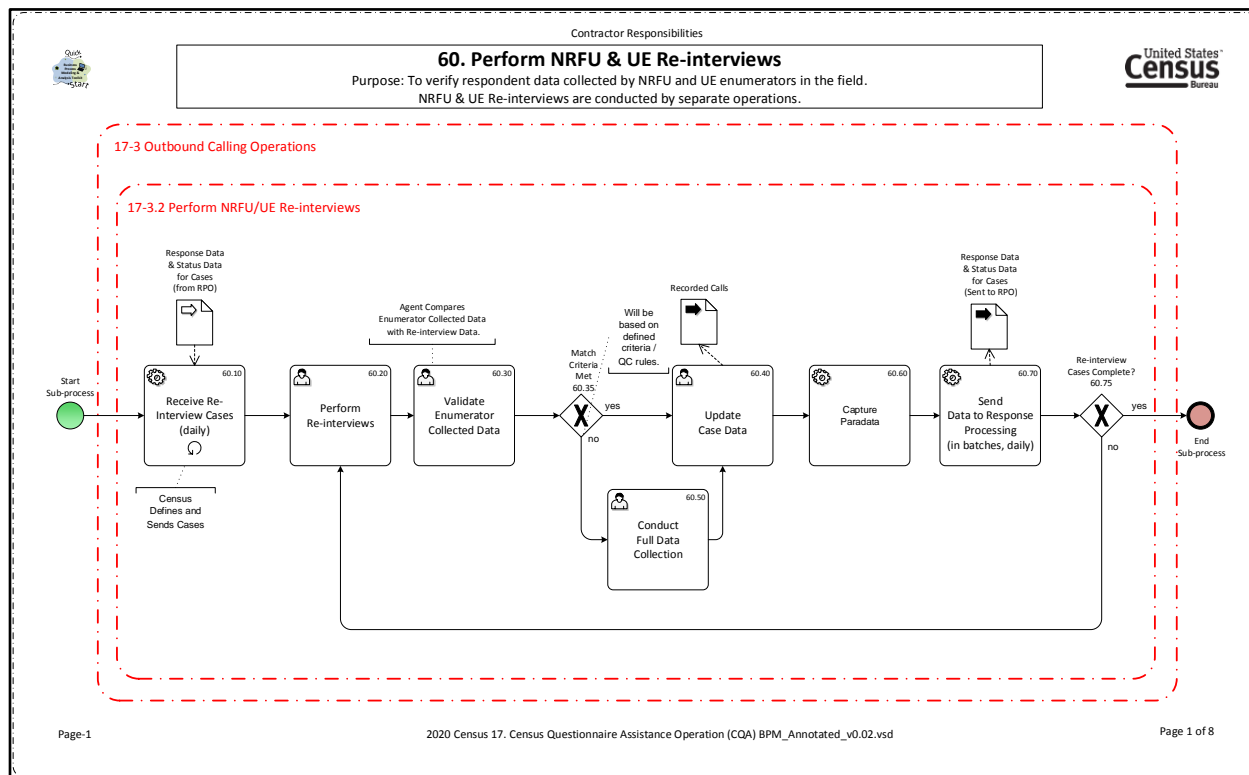
Figure 13: Perform NRFU/UE Reinterviews

These types of cases are reinterviews. There are two types of reinterviews depending on the source of the original interview submitted, either Nonresponse Followup (NRFU) or Update Enumerate (UE).

The Response Processing Operation (RPO) will create reinterview cases based on business rules and send them to the CQA contractor for processing.

3.4   Electronic Public Correspondence [CQA 17-4]

Figure 14 shows the BPM for the Electronic Public Correspondence [CQA 17-4] activity area (area within the shaded gray rounded rectangle) within the context of the overall CQA operation.
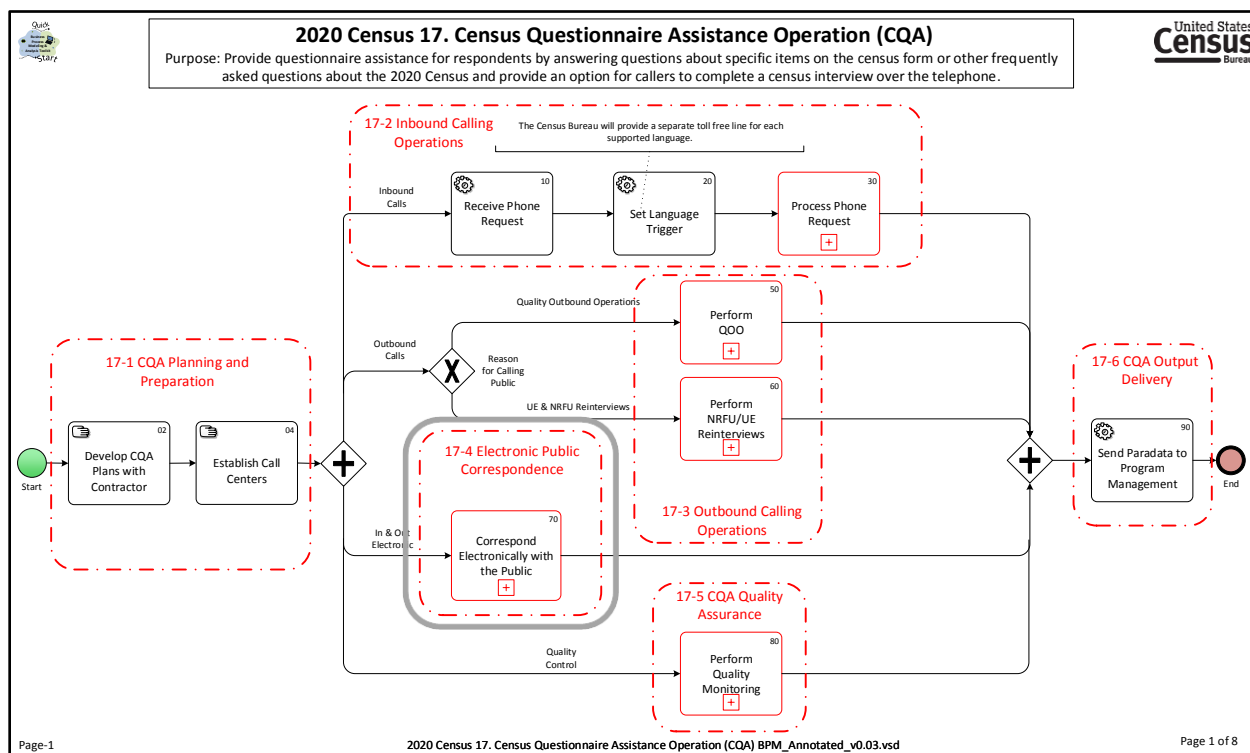
Figure 14: Electronic Public Correspondence [CQA 17-4] Constituent Activities

The Electronic Public Correspondence activity area has one subactivity as shown below.

- Electronic Public Correspondence [CQA 17-4]
    - Correspond Electronically with the Public [CQA 17-4.1]

The subsequent section describes the Electronic Public Correspondence operational subactivity in detail.

3.4.1 Correspond Electronically with the Public [CQA 17-4.1]

A detailed view of the constituent activities that make up the "Correspond Electronically with the Public" operational subactivity is given in Figure 15 below.
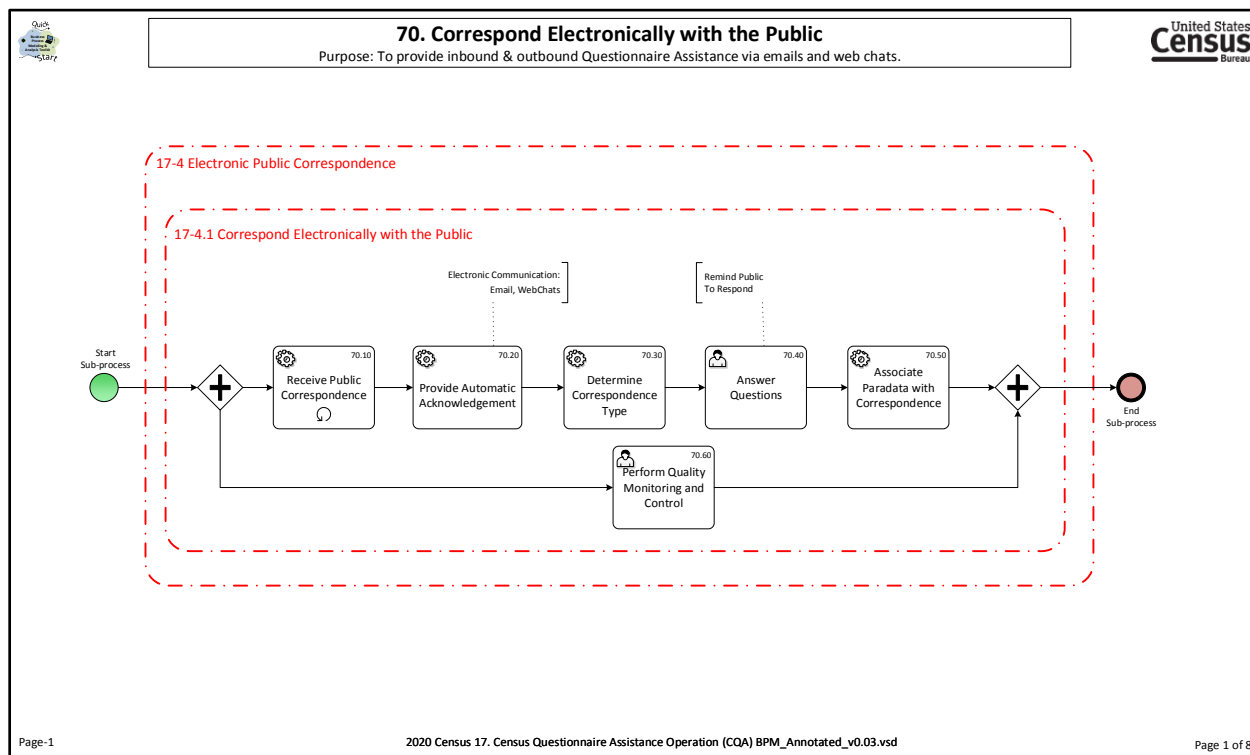
Figure 15: Correspond Electronically with the Public

It should be noted that the census questionnaire cannot be completed by web chat or email. There will be no census data capture with these channels.

Electronic correspondence will originate on the web-based census questionnaire site, and respondents may ask questions specific to the census questionnaire or general questions regarding census operations and processes (FAQs).

Both web chat and email buttons will be placed appropriately on the web-census questionnaire site.

CQA web chat and email CSR scripts will be used by the CSRs in providing complete and consistent answers.

The high-level steps associated with handling web chat and email requests are:

- Receive public correspondence
- Provide an automatic acknowledgement of the electronic correspondence.
    - Identifies the Census Bureau
    - "Thank you for your question …"
    - "You will receive a full response in …" (informs them of the time interval for a response)
- Determine the correspondence type (questionnaire specific or general process).
- Answer questions by following the CSR contact script.
- Associate paradata with the correspondence.
- Perform real time and postproduction quality monitoring and control.

3.5   CQA Quality Assurance [CQA 17-5]

Figure 16 shows the BPM for the CQA Quality Assurance [CQA 17-5] activity area (area within the shaded gray rounded rectangle) within the context of the overall CQA operation.
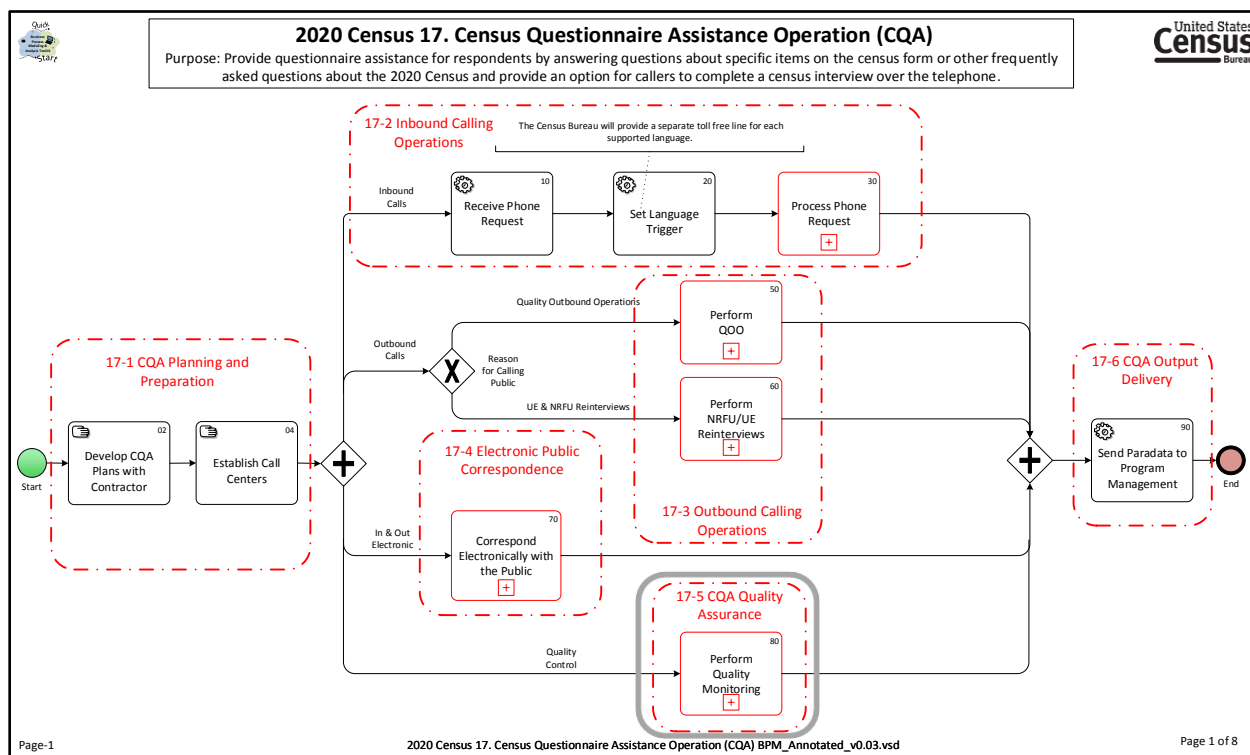
Figure 16: CQA Quality Assurance [CQA 17-5] Constituent Activities

The CQA Quality Assurance activity area has one subactivity as shown below.

- CQA Quality Assurance [CQA 17-5]
    - Perform Quality Monitoring [CQA 17-5.1]

The subsequent section describes the CQA Quality Assurance operational subactivity in detail.

3.5.1   Perform Quality Monitoring [CQA 17-5.1]

A detailed view of the constituent activities that make up the "Perform Quality Monitoring" operational subactivity is given in below.
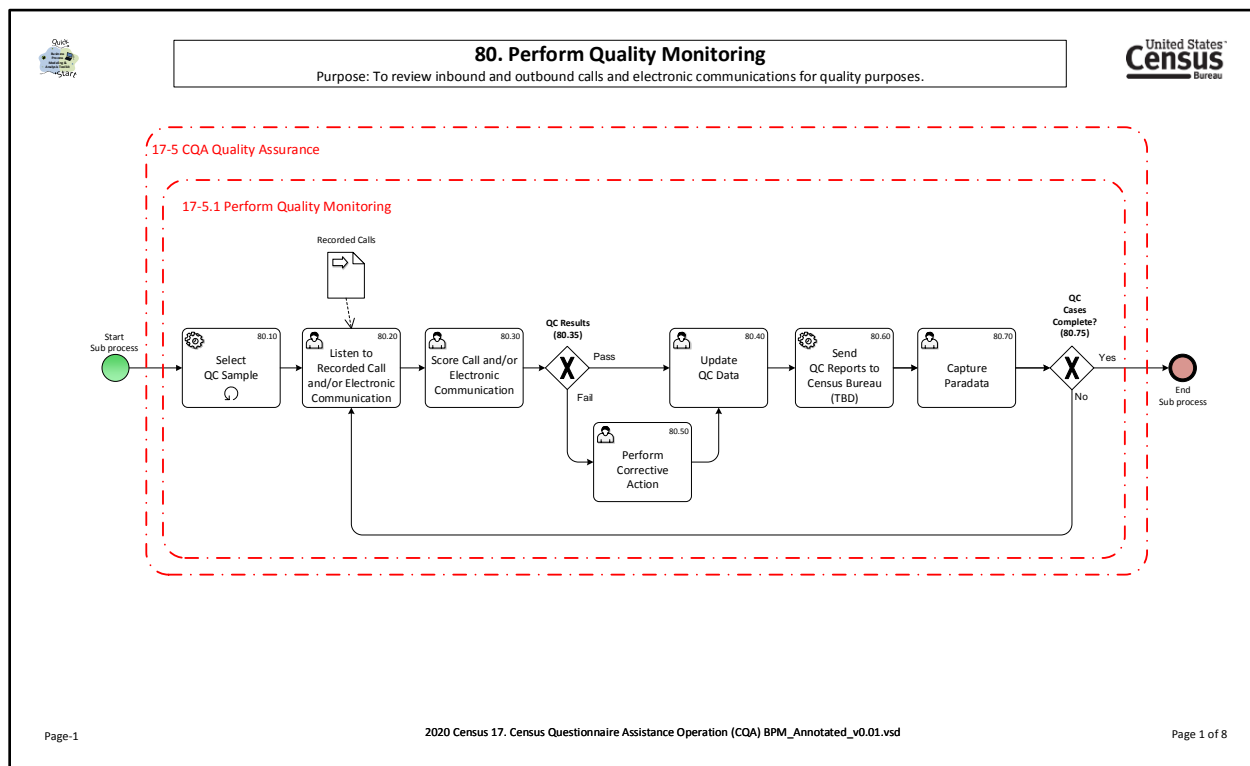
Figure 17: Perform Quality Monitoring

CQA Quality Monitoring will be performed across all channels (phone, web chat, and email) of the CQA Inbound as well as Census Outbound Operations. Quality Calibration Sessions will be used to judge effectiveness of interactions and to adjust procedures.

In addition to quality monitoring performed by the CQA contractor, the Census Bureau CQA PMO team or an authorized third party may complete quality audits.

CQA PMO team will work collaboratively with the contractor to develop a comprehensive CQA Quality Management Program and contact monitoring plan. The high-level process steps for CQA Quality Monitoring are:

- Contacts will be selected for monitoring based on the CQA Quality Monitoring Schedule that specifies quality-monitoring frequency within a defined timeframe.
- The quality of data captured by CQA CSRs will be monitored and measured in much the same way as the overall contact quality. The CQA Quality Monitoring Schedule specifies the frequency for data capture monitoring.
- A quality monitoring checklist needs to be developed for contact quality and data capture quality.
- Quality monitoring results need to be reviewed with CQA CSRs and any corrective action taken within a 24-hour period.
- CQA CSRs will have a process to appeal a quality monitoring for both contact and data capture. This process will be included in the Quality Management Program and the associated Quality Monitoring SOP.

Paradata gathered in the quality monitoring process may be associated with contact and other data.

3.6   CQA Output Delivery [CQA 17-6]

Figure 18 shows the BPM for the CQA Output Delivery [CQA 17-6] activity area (area within the shaded gray rounded rectangle) within the context of the overall CQA operation.
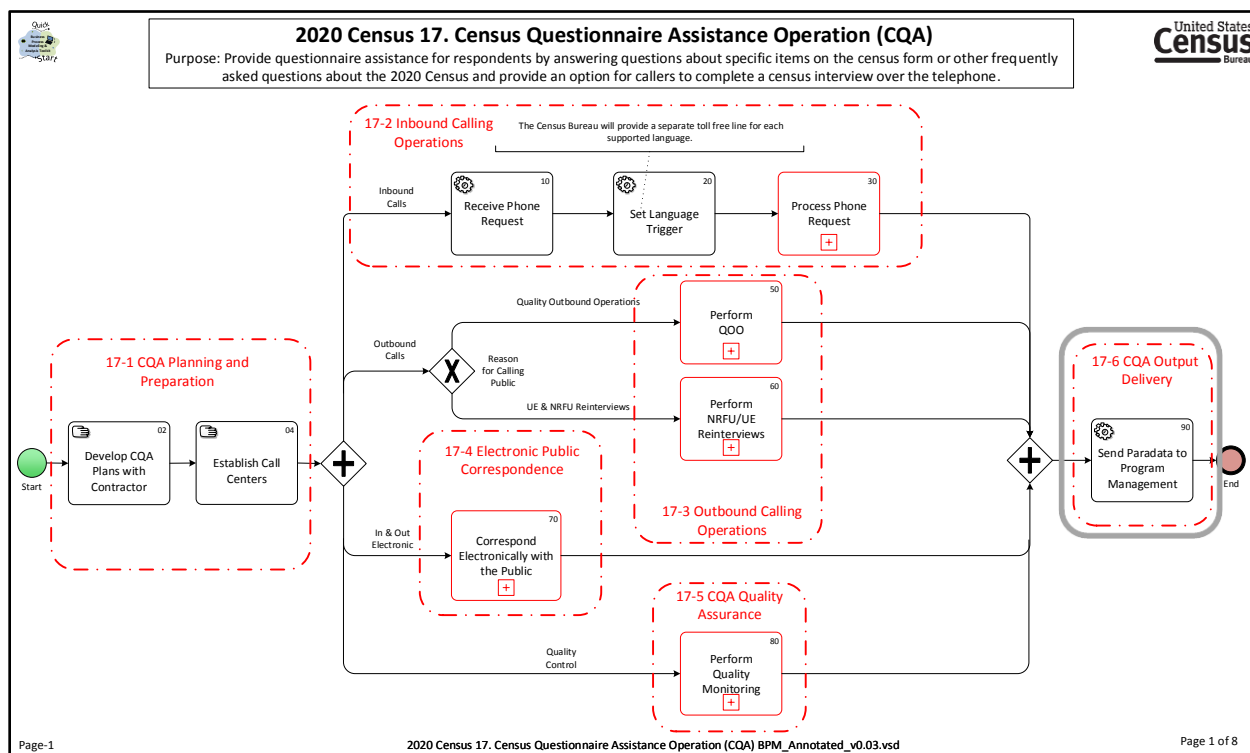
Figure 18: CQA Output Delivery [CQA 17-6] Constituent Activities

The CQA Output Delivery activity area has one activity as shown below.

- CQA Output Delivery [CQA 17-6]
  - Send Paradata to Program Management [CQA 17-6.1]

The subsequent section describes the CQA Output Delivery operational activity in detail.

3.6.1   Send Paradata to Program Management [CQA 17-6.1]

Paradata needs to be defined, and the respective contact center systems identified. Once the paradata definitions have been developed and source systems identified, detailed SOP around paradata consolidation and transmission can be developed.

4. Cost Factors

4.1 Background

The investment in CQA is projected to influence (reduce ⬇ or increase ⬆) the 2020 Census overall costs in the following ways:

- Increase self-response rates (⬇)
- Decrease Nonresponse Follow-up workload (⬇)
- Reduce the number of paper questionnaires (⬇)
- Increase CQA workload due to Internet Self-Response is expected to increase the workload for the CQA (⬆)

4.2 Cost Factors

A list of major cost factors related to the CQA operation includes the following:

- Workload across channels (phone, web chat and email)
- Workload for Census Outbound Operations' outbound calls (Failed Edits, reinterview, Quality Follow-up)
- Time to resolve contacts (by contact type)
- Service Level Agreements (how quickly contacts are expected to be addressed, their arrival patterns and duration dictate number of staff needed)
- Respondent self-service tools and FAQs available on the web-based census questionnaire site
- CQA Staff costs
- Site and Infrastructure costs
- Hours/Days of Operation
- Duration of the Operation (Operational Life Cycle)

This information is preliminary and will be updated as the 2020 Census Life Cycle Cost Estimate Model continues to mature.

4.3   Relevant IDEF0 Mechanisms

The following mechanisms from the IDEF0 Context Diagram represent the resources used to support this operation and will comprise part of the 2020 Census cost elements:

Staff

- HQ staff
- Contractor staff

Sites

- HQ
- CQA Sites

Systems

- Census Hiring and Employment Check System (CHEC)
- ECaSE
- Contractor Provided Systems

Other

- HQ Office and Contractor IT Infrastructure
- Census Networks

5. Measures of Success

For 2020 Census operations, the corresponding Measures of Success will be documented in the operational assessment study plans and final reports. The operational assessment study plan documents the criteria that will be used to define successful completion of the operation. The operational assessment report will provide results on whether the criteria were met.

In general, operational assessments report on planned to actual variances in budget, schedules, and production and training workloads. The corresponding Measures of Success (as documented in the operational assessment study plan) include variances that exceed established thresholds. See *Content Guidelines for the 2020 Census Operational Assessments* for the potential scope of assessment.

Types of success measures include:

- **Process Measures** that indicate how well the process works, typically including measures related to completion dates, rates, and productivity rates
- **Cost Measures** that drive the cost of the operation and comparisons of actual costs to planned budgets. Costs can include workload as well as different types of resource costs
- **Measures of the Quality** of the results of the operation, typically including things such as rework rates, error rates, and coverage rates

See the corresponding operational assessment study plan and report for the Census Questionnaire Assistance operation (CQA) for details on the measures of success.

Appendix A – Acronyms and Terminology

Table 7 lists the acronyms and abbreviations used within this Detailed Operational Plan document.

Additional Decennial terminology can be found on the Census Intranet under the [TBD] portal.

Table 7: Acronyms and Abbreviations List

Acronym	Meaning
ACD	Automatic Call/Contact Distributor
ACS	American Community Survey
ACW	After Call Work
AHT	Average Handled Time
ANI	Automatic Number Identification
APPL	Application Level Controls (as per (?)NIST)
ATO	Authority to Operate
BEA	Bureau of Economic Analysis
BPM	Business Process Model
BPMN	Business Process Model and Notation
CATI	Computer Assisted Telephone Interview
CCO	Contact Center Operations
CHEC	Census Hiring and Employment Check
CMS	Case Management System
CONOPS	Concept of Operations

Acronym	Meaning
COOP	Continuity of Operations
COR	Contracting Officer's Representative
CQA	Census Questionnaire Assistance
CRM	Customer Relationship Management
CSR	Customer Service Representative
CTI	Computer Telephony Integration
DHS	Department of Homeland Security
DOC	Department of Commerce
DOP	Detailed Operational Plan
DTMF	Dual Tone Multifrequency (Touch Tone Pulses)
ECaSE	Enterprise Censuses and Survey Enabling Platform
EVM	Earned Value Management
EVMS	Earned Value Management Systems
FAQ	Frequently Asked Questions
FBI	Federal Bureau of Investigation
GFE	Government Furnished Equipment
IGCE	Independent Government Cost Estimate
IMS	Integrated Master Schedule
IOD	Integrated Operations Diagram
ISP	Internet Service Provider

Acronym	Meaning
ISR	Internet Self-Response
IVR	Interactive Voice Response
LAN	Local Area Network
LNG	Language Services
MRS	Management Reporting System
NIST	National Institute of Standards and Technology
NPC	National Processing Center
NRFU	Nonresponse Followup
OMB	The Office of Management and Budget
OPM	Office of Personnel Management
PDF	Portable Document Format
PMO	Project Management Office
PWS	Project Work Statement
QASP	Quality Assurance Surveillance Plan
QOO	Quality Outbound Operations
RFI	Request for Information
RFP	Request for Proposal
RPO	Response Processing Operation
SLA	Service Level Agreement
SMS	Short Message Set (Text)

Acronym	Meaning
SOP	Standard Operating Procedures
SPC	Security, Privacy, and Confidentiality
SQL	Structured Query Language
TBD	To Be Determined
TDD	Telecommunications Device for the Deaf
TQA	Telephone Questionnaire Assistance
WAN	Wide Area Network
WFM	Workforce Management System

Appendix B – References

Appendix B lists the documents or other resources referenced within this Detailed Operational Plan document.

U.S. Census Bureau (2015), "2020 Census Operational Plan," Version 1.1, October 6, 2015.

U.S. Census Bureau (2016), "Operational Assessment Content Guidelines for the 2018 End-to-End Census Test and the 2020 Census," Draft, May 10, 2016.

Appendix C – Activity Tree for Census Questionnaire Assistance Operation (CQA)

This appendix presents the Activity Tree for the CQA operation. An Activity Tree uses an outline structure to reflect the decomposition of the major operational activities in the operation. Each activity is numbered according to its position in the outline. For example, for the current operation numbered "17," the first activity would be numbered 17-1. Subactivities under this activity would be numbered sequentially, starting again with the number one. For example, the first subactivity under the first activity would be numbered 17-1.1 the second subactivity as 17-1.2. The second activity would be numbered 17-2, and so on.

CQA Activity Tree:

- 17-1 CQA Planning and Preparation
    - o 17-1.1 Develop CQA Plans with Contractor
    - o 17-1.2 Establish Call Center
- 17-2 Inbound Calling Operations
    - o 17-2.1 Receive Phone Request
    - o 17-2.2 Set Language Trigger
    - o 17-2.3 Process Phone Request
        - ▪ 17-2.3.1 Process IVR Phone Request
        - ▪ 17-2.3.2 Process Live Agent Phone Request
        - ▪ 17-2.3.3 Capture Phone Request Paradata
- 17-3 Outbound Calling Operations
    - o 17-3.1 Perform Quality Outbound Operations (QOO)
    - o 17-3.2 Perform NRFU/UE Reinterviews
- 17-4 Electronic Public Correspondence
    - o 17-4.1 Correspond Electronically with the Public
- 17-5 CQA Quality Assurance
    - o 17-5.1 Perform Quality Monitoring
- 17-6 CQA Output Delivery
    - o 17-6.1 Send Paradata to Program Management

Appendix D – Business Process Models

This appendix includes all of the BPMs and a list of capability requirements for the CQA operation.

This appendix includes all of the Annotated 2020 Census CQA Business Process Models (BPMs) for the CQA Operation. The first sheet describes how to read the notation.

CQA Annotated BPM Diagram Set

PDF Attachment: 2020 Census 17. Census Questionnaire Assistance Operation (CQA) BPM_Annotated_v0.03.pdf

2020 Census 17.
Census Questionnaire

Appendix E – 2020 CQA Operation Management

The Census Bureau has been planning and preparing for 2020 CQA Operations since 2014. Past planning and preparation focused on research and requirements development and involved specific activities and documents that spanned both CQA Operation Management and the Census Bureau Acquisitions Division. These included:

- Development of CQA Schedule and Timeline
- Market Research
- Multiple Requests for Information (RFI)
- Workload Model Development
- Independent Government Cost Estimate (IGCE)
- Risk Identification and Mitigation Planning
- Requirements Development
- 2020 CQA Concept of Operations (CONOPS)
- 2020 CQA Acquisition Strategy
- 2020 CQA Request for Proposal (RFP)

Many of these planning and preparation activities have been completed, and some of these activities will continue through 2020.

Phases of the CQA Operation

Current plans are to execute the CQA operation using a series of phases, including two major exercises leading to the 2020 Census:

- Phase 1A: The 2017 Census Test and the 2017 Puerto Rico Census Test will test select elements of the 2020 Census systems along with the integration between the CQA contractor's systems and those of the Census Bureau. The CQA operation Project Management Office (PMO) will work with the CQA contractor to evaluate the 2017 Census Test and the 2017 Puerto Rico Census Test and to incorporate lessons learned into the 2018 End-to-End Census Test Plan. For 2017, CQA operations are currently scheduled to run from March 20, 2017, through August 4, 2017.
- Phase 1B: The 2018 End-to-End Census Test will test operational systems and their associated procedures to ensure that they are ready to support 2020 Census CQA operations. The 2018 End-to-End Census Test will run from approximately mid-March 2018 through August 2018.

- Phase 2: The 2020 Census – April 1, 2020, is 2020 Census Day. Operations will begin approximately mid-January 2020 to support remote Alaska enumeration and end early September 2020.
- Phase 3: Postproduction analysis of the 2020 CQA operation through close-out of the operations.

Phase-Specific Operations

Current plans to execute the 2020 Census CQA Inbound and Census Outbound Operations in subphases are as described in the section below:

The first phase (2017 Census Test and 2018 End-to-End Census Test) will progressively test procedures and systems; Phase 2 (2020 Census) will support the 2020 Census.

Subphase 1 - Planning and Initial Review

During this subphase, the CQA contractor and CQA PMO will develop plans and designs for the systems and processes, which will be used in the implementation of subsequent subphases including the creation of security controls and documentation required to obtain Authority to Operate (ATO) from the Census Bureau. Additionally, this phase will develop plans for activities leading to designing, implementing, and securing the operation to meet the projected workload demand. These planning activities include:

- Develop and model solutions to meet the expected inbound and outbound demand;
- Integrate the contractor-provided solution with Census Bureau provided elements;
- Create the training program and materials;
- Develop plans for required human resource actions, including:

  - o Hiring
  - o Background checks
  - o Security adjudication
- Obtain IT, facility, and personnel security authorizations;
- Manage changes to the established baseline;
- Communicate with the stakeholders;
- Manage risk;
- Create reporting system(s);
- Develop security-related documentation;
- Develop Test Plan;

- Develop System Design and Architecture Documents for all physical and logical elements involved in the proposed solution; and
- Develop Continuity of Operations Plan (COOP) for the proposed solution.

The goal of the planning phase is to develop a complete set of plans, pilots, and paper design that input to the initial review and approval process performed by the Census Bureau.

The CQA PMO will coordinate an initial review of the CQA contractor's plans and design documents to determine if the proposed solution meets the applicable operational and security requirements.

Subphase 2 – Implementation

The CQA PMO will oversee and manage the CQA contract who will implement the solution approved in Subphase 1. This solution will include physical infrastructure, inbound and outbound contact handling and reporting systems, interfaces to the Census Bureau's systems, and personnel and policies and procedures needed to provide required support services and to meet the expected workload.

Specifically, the CQA contractor will develop, test, and implement:

- Operational facilities;
- Inbound/outbound contact handling systems including COOP arrangements;
- Data Centers;
- Reporting Systems;
- Human Resource and Training Systems;
- Invoice Systems;
- Training Systems;
- Quality Management Systems;
- Workforce Management Systems;
- Contact (Speech/Text) Analytics;
- IVR;
- Web chat;
- Email;
- CSR Desktop Application;
- Customer Relationship Management (CRM) Solution; and
- Other systems approved by CQA Operation Management.

Subphase 3 – Resource Development

The CQA contractor will implement the hiring and training plans developed in the Planning and Initial Review subphase. Specifically, the CQA contractor will:

- Perform required human resource actions, including:

    o Hiring;
    o Background checks; and
    o Security adjudication.
- Execute the training program; and
- Ensure that contractor's staff has the appropriate accounts and access to the Census Bureau provided systems.

Subphase 4 – Operational Readiness Verification

The CQA contractor will work with the CQA PMO to conduct tests of all contractor-provided systems, infrastructure, staff, and associated training materials and procedures before the start of the test or operations. The CQA PMO will review the contractor's implemented solution to determine if it complies with the approved designs and requirements. The CQA contractor will work with the CQA PMO to resolve any issues discovered during the review.

Subphase 5 – Operations and Maintenance

The CQA contractor will operate the CQA Inbound and Outbound Operations in accordance with the established policies, procedures, and Service Level Agreements (SLA).

Subphase 6 – Analysis

The CQA PMO along with the CQA contractor will develop lessons learned, assessments, analysis, and recommendations for updates, as needed. These recommendations will form the basis for updates to the planning for the next phase.

Subphase 7 – Close-out

The CQA contractor will perform activities necessary to close or scale down the operations, including:

- Scaling down operations, including closing sites and systems;
- Removing any Census-related data from the operational and test systems;

- Returning Government Furnished Equipment (GFE); and
- Collecting and delivering final deliverable.

Disassembling and/or destroying systems and information as required by the CQA Operation Management.

CQA Operation Execution

The CQA PMO will be responsible for defining and managing the program-related processes, procedures, templates, etc., supporting individual program management teams by handling administrative functions centrally, or providing dedicated assistance to the program manager. The CQA PMO responsibilities include:

- Interact with CQA stakeholders;
- Define program management strategy;
- Provide program oversight;
- Identify risks, analyze risks, and plan risk responses at the program level;
- Standardize program-related governance processes and facilitates sharing of resources, methodologies, tools, and techniques;
- Provide information needed to make decisions that guide the program; and
- Provide administrative support in managing schedules, budgets, risks, and other areas required for effective management.

The CQA PMO structure will be assessed periodically and modified, where appropriate, to be responsive to the evolving objectives of the program and effectively manage the program.

Current CQA preparation and on-going operational tasks and activities are organized into four broad categories around Contract Management, Business Management, Facilities, Security and Infrastructure Management, and Contact Center Channel Management as shown in Figure 19.

Program Management

Business Management	Contact Center Channel Management	Facilities, Security, and Infrastructure Management	Contract Management

Figure 19: CQA Operation Management Areas

Each of these four categories and their associated tasks span the entire CQA lifecycle for both CQA Inbound and Census Outbound Operations. The tasks and activity priority should reflect the CQA lifecycle.

Note: These program management areas are not finalized and could potentially change in the future.

CQA Business Management

CQA Business Management oversees the development and management of program-level business management framework, practices, and standards, such requirements management, risk management, schedule management, scope/change management, financial/budgetary management, and postoperations analytics.

CQA Requirements Management Tasks

CQA Requirements Management involves the development and verification of CQA requirements as well as their preoperation verification. These tasks need to be performed on an ongoing basis through 2020.

- Perform ongoing validation of the stability of capability requirements (scope or quantity) from the previously established baseline and the impact of the requirements change on the program cost and schedule;
- Further develop, clarify and communicate requirements for the 2017 Census Test, the 2018 End-to-End Census Test and the 2020 Census operations to the CQA Contractor;
- Identify all Census Bureau required training elements, which may include:
  - o Internet Instrument Training;
  - o Security Training; and

- - Census Required Standard Operating Procedures (SOP) elements.
- Develop a mechanism to communicate training completions from the CQA Contractor to the Census Bureau;
- Determine how CQA Contractor may access Census Bureau-developed FAQs in supported languages, which may include:
  - CQA CSR access; and
  - IVR Access.
- Develop, clarify, and communicate new requirements to the CQA Contractor to fully meet CQA needs;
- Make resources available to answer the CQA Contractor's questions regarding requirements and requests for additional information;
- Perform validation activity to ensure that requirements have been met and that the CQA Contractor's staff, processes, and systems conform to them;
- Develop requirements around hosting of the Internet instrument, which may include:
  - System Security requirements;
  - CQA CSR Interface requirements;
  - System Response Time requirements; and
  - System Availability and Continuity of Operations (COOP) requirements.
- Develop requirements for Application Program Interface (API) and other data interfaces/data exchanges with Census Bureau;
- Develop requirements around facility design/build-out and Census Bureau review;
- Develop requirements and related processes around system development and Census Bureau review;
- Procure toll-free numbers, one number for each CQA supported language. These numbers are managed and owned by the Census Bureau and need to be assigned and reserved for CQA Operations; and
- Perform additional requirements testing and verification tasks, including but not limited to:
  - Development and review of SOPs;
  - Contact center CSR training material;
  - Review of call flow and contact center processes for CQA Inbound and Census Outbound Operations;
  - Language support (CSR skills and translations of resources and materials);
  - Functional capabilities of contact center technologies and systems;
  - CSR contact scripts, across phone, web chat, and email;
  - IVR multilevel voice menus and script across supported languages;
  - Development of issue escalation procedures; and

      o CSR hiring plans and development of processes and systems required for background checks and security clearances

CQA Change Management Tasks

CQA Change Management involves ongoing management of CQA Operation requirements changes and facilitating these changes into CQA Operations.

- Develop a comprehensive change management process that ensures that all program changes are authorized by CQA Operation Management;
- Establish a change management baseline that needs to be managed on an ongoing basis across all requirement areas;
- Communicate updates to existing requirements;
- Communicate new information and requirements; and
- Establish a dedicated Change Management Board to review and approve program changes and to oversee the communication of all required operational, informational and requirements changes.

Examples of areas the change management process would cover are:

- IVR;
- Automatic Call Distributor (ACD);
- CSR Desktop Application;
- Knowledge Management Resources;
- Reports and Contact Analytics;
- Outbound Predictive Dialer;
- Computer Telephony Integration (CTI);
- Contact Routing;
- Quality Recording and Monitoring;
- SOPs;
- CSR Scripts;
- Escalation Process; and
- CSR Training.

CQA Postoperations Analytics Tasks

CQA Postoperations Analytics involves developing operational analyses and lessons learned after the 2017 Census Test and ensuring that these lessons are baked into the 2018 End-to-End Census Test operational plans. In addition, ensuring that the operational analysis and lessons

learned from the 2018 End-to-End Census Test are integrated into CQA operational plans are important to the overall success of CQA.

These analyses may focus on such areas as:

- Multichannel Contact Handling and Handled Time Analysis;
- Multichannel Contact Reason Analysis;
- Multichannel Service Level Analysis;
- Workload Forecast, Unexpected Contact Spikes and Staffing Analysis;
- IVR Call Handling and Deflection Analysis;
- First Contact Resolution and Repeat Contact Analysis;
- Supported Languages Performance Analysis; and
- Contact Analytics and Quality Analysis.

CQA Contact Center Channel Management

CQA Contact Center Channel Management monitors the performance and the effectiveness of contact center operations. It ensures the alignment of contact center operations with program requirements, goals, and objectives. It also oversees and monitors service levels and quality and ensures consistency of operations processes and the customer experience.

The CQA Operations Management activities focus on the CQA Contractor's operational performance, service level and service quality. Key areas for CQA Contact Center Channel Management Operations are explained in detail below:

CQA Performance Management Tasks

CQA Performance Management involves the ongoing management processes and activities needed to be established for monitoring the CQA Contractor's responsiveness in providing assistance across phone, web chat, and email channels and to make sure that the agreed upon service and quality levels are met. These activities include:

- Evaluate the effectiveness, availability, stability, and adequacy of the PMO to support and execute program activities;
- Evaluate the progress toward defining and executing the sustainment strategy, and the adequacy of resources to accomplish key sustainment planning activities;.
- Establish Interactive Voice Response call deflection rate goals and monitor system performance and operation;

- Monitor all contact center metrics and SLAs in real-time to ensure that service quality meets agreed upon standards and requirements;
- Oversee and manage contact center command center activities and review daily operational contact analytics and reports; and
- Establish an appropriate schedule for operational meetings to review performance reports and data.

CQA Quality Management Tasks

CQA Quality Management involves monitoring phone, web chat, and email contacts and measuring service quality across the contact center in a consistent and comprehensive way.

A CQA Quality Management Program needs to be developed in conjunction with the CQA Contractor to include phone, web chat, and email contacts. This comprehensive Quality Management Program should include:

- Contact quality objectives for phone, web chat, and email;
- Contact quality objectives for individual CSRs, teams, and each contact center;
- Quality Management Guidelines for quality monitoring calibration sessions that include:
  - Sessions schedule; and
  - Calibration methods and procedures.
- Quality objectives for data capture accuracy for individual CSRs, teams, individual sites, and the entire contact center;
- Contact quality guidelines and contact monitoring and data capture quality audit checklist;
- Quality scorecards for individual CSRs, teams, individual sites, and the entire contact center;
- Quality Management Guidelines for automated quality scoring by contact analytics system for individual CSRs, teams, individual sites, and the entire contact center;
- Quality Management Guidelines for automatic identification of contacts for human quality monitoring by contact analytics system;
- Quality Management Administration Guidelines to include:
  - CSR quality monitoring appeal procedures; and
  - Human Resources actions related to repeated contact and data capture quality failures.

CQA Contact Analytics and Reporting Tasks

CQA Contact Analytics and Reporting involves providing the documented analytical data, trends, and results to all stakeholders so that they can understand the impact of CQA and what

respondents are saying and doing. Capturing and reporting information is critical for management decision making and overall program success. Activities associated with the Contact Analytics and Reporting tasks include, but are not limited to:

- Development of real-time and historical reports based on actual results as measured by Program Management, Operations Management, and Contract Management areas.
- Creation of analytics requirements and specific reporting formats and templates that meet CQA Operation, Operations, and Contract Management needs.
- Development of typical contact center management reports would include:
  - Test results that validate requirements and functions;
  - Census Outbound Operations call attempts and case completions, as well as:
    - Census Outbound Operations call metrics
    - Call Attempts
    - Call Completions
    - Call Handled Time
    - Average Number of attempts before call completion
    - Number of answering devices
    - Number of messages left on answering devices
    - Number of returned inbound calls
  - CQA Workload volume actuals against forecasts;
  - CSR Occupancy/Productivity;
  - CSR Shrinkage Report;
  - CSR Attrition Report;
  - Contact Handle Time and service levels across channels;
  - Contact quality across channels and data capture accuracy scores by all contact centers, contact center teams, and individual CSRs;
  - Contact quality across channels and data capture accuracy scores by skill group and contact type/contact reason; and
  - Contact Analytics Reports, across all channels, which may include:
    - Trending Topics by Day
    - Top Census Questions that Prompt Contact
    - Top Contact Drivers
    - Top Contact Types
    - Top Compliments
    - Top Complaints
    - Number of repeat contacts
    - Number of transferred Calls
    - Deviations from CSR Scripts
    - Dissatisfied Callers
    - CSR Issues

- IVR call completions, call handled time and IVR FAQ access frequency
- Contact type and reason report by language skill group, which may include:

Phone	Web Chat	Email
Average Handled Time (AHT)	Average Handled Time (AHT)	Average Handled Time (AHT)
Number of Abandoned Calls	Number of Abandoned Chats	Average Time to Answer
Average Time to Answer	Average Time to Answer	Contact Type and Contact Reason
Average Time to Abandon	Average Time to Abandon	Average After Email Work
Average Hold Time	Average Idle Time between Chat Segments	Email service level
Contact Type and Contact Reason	Contact Type and Contact Reason	
Average After Call Work (ACW)	Average After Chat Work	
Phone Service Level	Average Chat Sessions per CSR	
	Web Chat Service Level	

CQA Workload & Workforce Management Tasks

CQA Workload & Workforce Management involves the ongoing management of workload and staffing levels across phone, web chat, and email channels. A third-party approach to managing and monitoring workload and corresponding staffing levels will assure the best value is provided to the Census Bureau.

The industry standard for contact center workload forecast accuracy is plus or minus 5 percent from actuals. This may not apply to the CQA based on its unique drivers, timeframe and lifecycle characteristics, so an agreed-upon standard with the CQA Contractor may need to be developed.

The following are key workload driver events that need to be monitored:

- Mail drop dates;
- Mailing of paper census questionnaires;
- Mailing of language assistance guides;

- Census Web-Form site issues;
- Advertising activity across all media at national, regional and local levels, including targeted Internet;
- Forecasted contact volume and handled time by contact type and language;
- Contact spikes and their root cause;
- Census Outbound Operations call attempts, successful contacts, and case completion rates;
- CSR staffing levels;
- CSR productivity levels;
- CSR attrition levels;
- CSR shrinkage levels;
- Variations in IVR deflection rates;
- Variations in AHT; and
- Variations in service level.

2017 Census Test and 2018 End-to-End Census Test Lessons Learned Tasks

The 2017 Census Test and 2018 End-to-End Census Test Lessons Learned area involves establishing a program activity around developing robust and comprehensive lessons learned from test activity. Developing lessons learned is a practice that is critical to improving CQA Operations and service quality. This will ensure that the CQA Operation is driving test analysis and lessons learned in partnership with the CQA Contractor.

Lessons learned development after each census test, and ultimately 2020 Census, should span:

- CQA Operation Management:
    - CQA Requirements Management;
    - CQA Change Management;
    - CQA Security Management; and
    - CQA Postoperations Analytics.
- CQA Operations Management:
    - CQA Performance Management;
    - CQA Quality Management;
    - CQA Contact Analytics and Reporting;
    - CQA Workload/Workforce Management; and
    - 2017 Census Test and 2018 Census End-to-End Lessons Learned.
- CQA Contract Management:
    - CQA Deliverable Review;
    - Award Fee & EVMS Management;

- o Service Level Agreements & Quality Management; and
- o Invoices & Financial Management.

CQA Facility, Security, and Infrastructure Management

CQA Facilities, Security, and Infrastructure Management involves all aspects of CQA Security required for the 2017 Census Test and the 2018 End-to-End Census Test, and will run throughout the entire CQA Operational life cycle. The CQA Security Management activities span the areas outlined below.

This area oversees the design and development of facilities and IT infrastructure to ensure that it meets program requirements and goals. It manages security processes to ensure the security of census information as well as the alignment between security requirements and program needs.

CQA Facility, Security and Infrastructure Management Tasks

Tasks associated with this area include, but are not limited to:

- Ongoing management of staff clearances and personnel security:
    - o Establish security clearance level required by role;
    - o Develop scalable security clearance process by level;
    - o Develop process for accepting and processing CQA contractor staff applications;
    - o Develop process for accepting and processing fingerprinting package that accompanies staff application;
    - o Develop process for application adjudication; and
    - o Establish ongoing operational processes to add and remove staff.
- Ongoing management of physical and facility security:
    - o Develop requirements around facility design/build-out and Census Bureau review;
    - o Identify contractor facilities and begin the facility security approval process;
    - o Establish security level required for each facility; and
    - o Establish processes to maintain facility security approval.
- Ongoing management of data and systems security:
    - o Develop requirements around systems development and Census Bureau review;
    - o Identify all CQA and Census system integration points;
    - o Identify all CQA systems and initiate the process to obtain the initial Authority to Operate (ATO); and
    - o Ensure all systems maintain an ATO Certification and Accreditation.

CQA Contract Management

The CQA Contract Management is focused on ongoing management aspects of the CQA contract, and these activities are overseen by the Contracting Officer's Representative (COR). This function is responsible for the overall management oversight, administration, and technical direction of the CQA Contact Center contract as well as any other program or component level CQA contract. Key areas for CQA Contract Management are explained in detail below:

CQA Deliverable Review Tasks

CQA Deliverable Review involves both the review and acceptance of contract deliverables. These tasks may include:

- Development or use of a standard deliverable review process, and checklist;
- Monitoring the deliverable schedule and facilitating the review process for deliverables; and
- Assessment of the status of program master schedule/Integrated Master Schedule (IMS) and milestone documentation development.

Award Fee & EVMS Management Tasks

Tasks associated with this area include, but are not limited to:

- Develop initial award fee plan and modify for each evaluation period;
- Develop Individual Event Reports and monthly Technical Monitor Reports;
- Support the Award Fee determination process;
- Develop and finalize Earned Value Management (EVM) measurement process and identify the associated Earned Value Management System (EVMS) used for management and track tracking purposes; and
- Assess monthly contractor reports.

Service Level Agreements & Quality Management Tasks

Tasks associated with this area include, but are not limited to:

- Develop, negotiate and manage ongoing Service Level Agreements (SLAs);
- Define and develop performance metrics to be included in the Project Work Statement (PWS);
- Develop and finalize Quality Assurance Surveillance Plan (QASP); and
- Monitor performance in accordance with QASP and SLAs.

Invoices & Financial Management

Tasks associated with this area include, but are not limited to:

- Evaluate the cost estimating activities, the confidence level associated with the current cost estimate, and the delta between the Program Office and independent cost estimates;
- Monitor overall CQA operation finances and budget;
- Review and process all contractor invoices; and
- Update and maintain the Independent Government Cost Estimate (IGCE).

CQA Contract Support

Tasks associated with this area include, but are not limited to:

- Support of contract modifications;
- Assessment of PMO Progress toward defining and executing requirements;
- Monitoring of Census Bureau responsiveness to Request for Proposal (RFP) and technical inquiries;
- Management of Government Furnished Equipment (GFE);
- Management of overall scheduled requirements;
- Review of Contractor Performance Assessment Reports (CPARs), staffing adequacy, and work package completion;
- Monitoring and evaluation of the CQA Contractor's small business participation performance; and
- Acceptance of final contract deliverables.

Appendix F – Inbound Calling Operation Details

An outsourced multichannel Contact Center will support CQA. The CQA CSR staff and the IVR will function within this contact center. The Contact Center's command center will manage the routing, workload, staff, and other critical functions. Other functions that take place within the Contact Center are Workforce Management, Quality Management, and initial and continuing training for CQA CSRs.

The CQA contractor will staff, manage, and operate the CQA Contact Center and provide the infrastructure, processes, and operational mechanisms to achieve CQA goals and objectives. Figure 20 shows the key components and services of the CQA Contact Center. It also illustrates inbound and outbound channels.
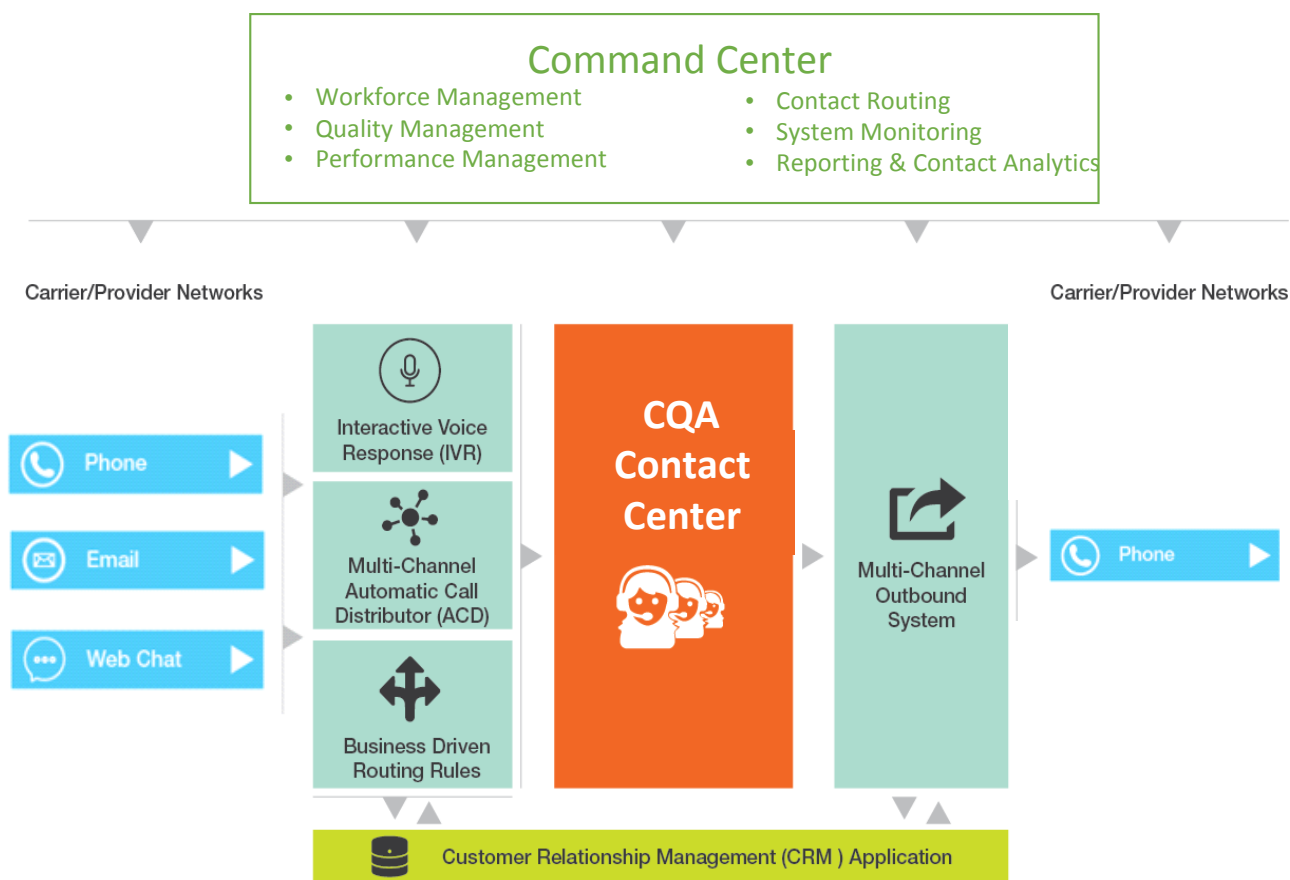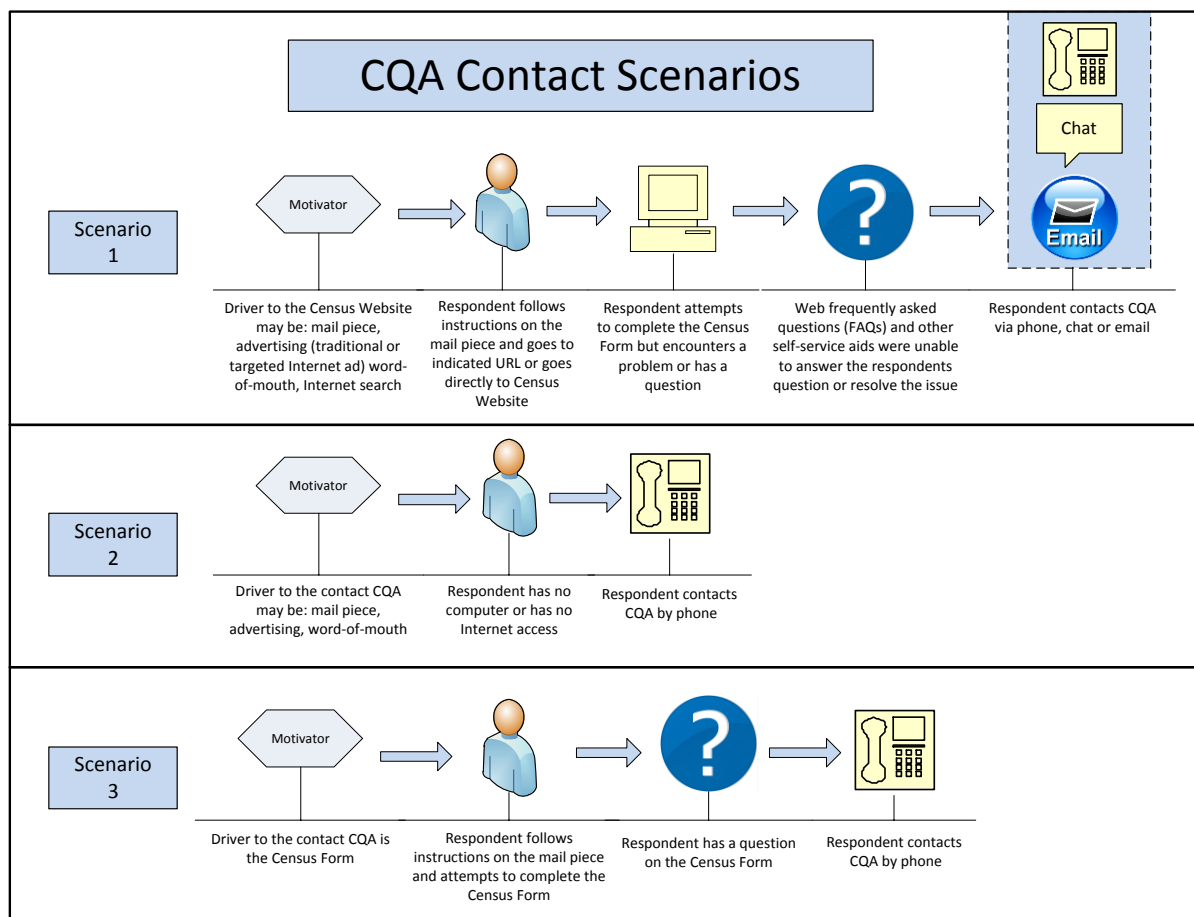

Figure 20: CQA Contact Center Key Components and Services

Inbound Contact Scenarios – The Path Respondents take to a CQA CSR

Figure 21 illustrates the respondent journey from website to CQA CSR across common CQA contact scenarios.

Figure 21: CQA Contact Scenarios

Interactive Voice Response System

CQA's IVR will not perform any Census data capture. This function will only be performed by CQA CSRs.

In addition to the normal call routing, announcements, and FAQs, the IVR will provide some degree of automation (tasks that Telephone Questionnaire Assistance CSRs manually performed in the 2010 Census). These may include:

- Questionnaire status updates (pending testing)
- Other tasks

The IVR design will give respondents easy access to speak with a CQA CSR.

Public-Facing Interactions

All scripts, messages, and other items that CQA uses to communicate with the respondents will be provided or approved by the Census Bureau. This includes FAQs and CSR scripts.

CSR Locations and Remote (Home) CSRs

All CSRs must be located at secure contractor facilities within the United States. There will be no remote or work-at-home CSRs.

CQA Language Support

The CQA will provide support in the same languages as the census questionnaire website. CQA language CSRs will not translate the census questionnaire, associated documents, CSR scripts, or FAQs; rather, they will read them as they appear on the website or CSR Desktop Application in the language they are speaking to the respondent. The IVR will support self-assistance in English and Spanish, only. For the other supported languages, the calls shall be routed directly to the first available CSR skilled in the specific language. Each language will have its own toll-free phone number. These will be provided by the Census Bureau.

Jobs Line (under review)

Optional Scope Item: In the 2010 Census, the Jobs Line was an IVR application with call routing capabilities. Job applicants called a toll-free number and could listen to information about the census and then choose to be routed to the Census Bureau office that covered their geographic area. The callers were routed by entering their ZIP code and sometimes by choosing their county where ZIP codes crossed county boundaries. The Census Bureau recruited 3.9 million job applicants. All job applicants were required to call the Jobs Line to be scheduled to take an employment test. Although 3.9 million applicants were recruited, the Jobs Line received over 8.7 million calls, and 6.6 million calls were routed to local offices. Calls were also routed to the Census Bureau's telephone centers when callers were having trouble entering a valid ZIP code. The Jobs Line had a three-phase roll out:

- 8/2008 to 9/2008 – Routed to 12 regional census centers (regional offices);

- 10/2008 to 2/2009 – Phased rollout, routed to 151 local census offices; and
- 11/2009 to 1/2010 – Phased rollout to 494 local census offices.

For the 2020 Census, most applicants will apply and take the employment test online. Jobs Line functions will be similar to what they were in the 2010 Census, routing callers to the office that covers their geographic area. The rollout will still need to happen in three phases; however, it will route to fewer offices (about half as many). In addition, substantially less call volume is expected given the online application process and the fact that the Census Bureau expects to recruit fewer job applicants (perhaps up to a million fewer). Census Bureau will make final decision regarding CQA's support of the Jobs Line process at later time.

Appendix G – Contractor Provided Systems Details

System	Description
Interactive Voice Response (IVR)	The IVR is the initial point of entry into 2020 CQA for all respondents that dial the toll-free numbers. The IVR will understand speech (Natural Language Speech or Structure Voice Recognition). The IVR will offer self-service help to the respondent as FAQs or another self-service option such as providing the caller with their census questionnaire status.
CSR Desktop Application	A CSR Desktop Application that the CSRs can use to process contacts, control the Automatic Call Distributor (ACD) softphone, and provide CRM-like functions will be developed. The CSR application will have the following minimal functionality: - Regular telephone functions, such as answering inbound calls, making outbound calls, terminating calls, placing calls on hold, holding conference calls, and transferring calls; - An arranged logical structure, such as households associated with an address and having contacts as an attribute; - Instructions for completing tasks associated with processing contacts; - CSR Resources, Knowledge Management, and Job Aids; - Integration with the ACD to tie call data to contact record; - Logic-Branching CSR scripts; - Version of the Knowledge Management optimized for phone and nonphone channels; - FAQs to support CQA CSRs; - FAQ content and URLs imported into email and chat sessions; - FAQs optimized for phone and nonphone channels; - Ability to associate contact record with call recording, web chat, email, and any other contact media;

System	Description

	• Ability to alert supervisors in synchronous, real-time manner by audited, electronic means;
	• Time displayed in the CSR's state;
	• Ability to change CSR ACD status, such as available/not available ;
	• Ability to display current call stats to the CSR;
	• Ability to automatically generate a unique contact record for a contact;
	• Ability to automatically provide a minimum set of data elements with each contact record:
	
	    o Arrival date and time;
	    o Place within the IVR script where the caller initiated transfer to a CSR;
	    o Contact channel;
	    o Closure date and time; and
	    o CSR identification.
	• An ability to provide the following minimum set of contact-specified information:
	
	    o Reason for contact;
	    o Resolution/disposition;
	    o Where within the census form completion process was help initiated; and
	    o Additional information in a free-form text field.
	• Ability to associate the respondent-provided Census ID with the associated call, and with associated contact defined above; and
	• Ability to manage interactions by web chat and email.

Knowledge Management System	An online knowledge management system that will serve as the central repository for all Census Bureau approved knowledge elements, including, but not limited to, Frequently Asked Questions, CSR Scripts, SOPs, and automated responses. All items stored within

System	Description
	the knowledge management system will be kept current, and change control measures will be utilized to maintain control over all its contents. The knowledge management system will provide the following minimum functionality: - Keyword and free text search capability; - Support of all required languages; - Prioritization of FAQs and other information based on recent searches and custom-defined parameters, such as prioritization based upon frequency of use or manually assigned weights; - Support for web and IVR interface; - Provide input to automated email and chat interactions, such as the ability to generate automated reply messages based upon information contained in the message or chat; and - FAQ analytics, including such items as analysis of usage and effectiveness.
Multichannel Inbound Contact Routing	A multichannel contact acceptance and handling system that will accept and process all voice, chat, and email channels will support the CQA Contact Center. The system will process all channels simultaneously in a manner that supports contact routing to the best-suited CSR, based on skills and availability rules, including: - Adjusting call routing and workload based on real-time conditions to optimize performance; - Route by call type; - Route based on language; - Route based on day of week/time of day; - Route based on CSR criteria; - Routing by number being called; - Routing by Caller ID and ANI; - Routing by information from an IVR;

System	Description
	• Routing based on information from a database; and • Routing based on other criteria, such as area code, exchange.
Call-Back Queuing System	A queuing system that allows callers to receive callbacks instead of waiting in an ACD queue will support the CQA Contact Center. Callers will have the ability to schedule an immediate callback when a CSR becomes available while not losing their place in the queue. They will also have the ability to schedule a callback at a specified time. The caller should be given the option to receive a callback at the ANI or at another number specified by the caller.
Multichannel Automatic Call Distributor (ACD)	A multichannel ACD will provide the following minimal voice functionality: • Ability to route voice contacts to CSRs; • Ability to integrate the CSR softphone built into the CSR Desktop application with regular telephone functions, such as answering inbound calls, making outbound calls, terminating calls, placing calls on hold, holding conference calls, and transferring calls • Ability to display the time; • Ability to change CSR status, such as available/not available; • Ability to display current call statistics to the CSR; • Ability to support priority queuing; • Ability to support Computer Telephony Integration (CTI), which synchronizes data with calls when calls are transferred and captures and stores data related to the inbound call (paradata); • Ability to support skills-based routing and routing based on other criteria; • Ability to provide estimated wait times (customized to dialed number and the corresponding language); • Ability to play music and/or special announcements in queue and on hold (customized to dialed number and the corresponding language); • Ability to read area code and exchange and play recording

System	Description
	that gives facts about the caller's state, city, or ZIP code when callers are in queue (customized to dialed number and the corresponding language);
	• Ability to provide informational announcements in queue (customized to dialed number and the corresponding language);
	• Ability to support after-hours announcements that should direct callers to the 2020 Census form website (customized to dialed number and the corresponding language);
	• Ability to allow CSRs to record a greeting using a standard greeting message;
	• Ability to send multimedia contacts to CSRs (phone, email, web chat);
	• Ability to provide individual or group voice mail (customized to dialed number and the corresponding language);
	• Ability to integrate the CSR Desktop Application with ACD;
	• Ability to integrate with the WFM System; and
	• Ability to integrate with the Quality Management System.
	Special treatment, such as the ability to bypass the IVR and take priority in the queue, will be provided for calls transferred from other Census Bureau Contact Centers.
	A multichannel ACD with the following minimal web chat functionality (web chat will be initiated from the census form website used by the respondents to compete the census form):
	• Ability to route web chat contacts to CSRs;
	• Ability to integrate the CSR Desktop Application with web chat;
	• Ability to route multimedia contacts to CSRs (phone, email, and web chat);
	• Ability to integrate the web chat channel with WFM;
	• Ability to Integrate the web chat channel with Quality Management System;

System	Description
	• Ability to capture and store data related to web chat (paradata); • Ability to support automated reply chat based on the content of the inbound chat; and • Ability to display an automated welcome message to respondents when they are placed in the CQA chat queue. A multichannel ACD with the following minimal email functionality (email will be initiated from the census form website used by the respondents to complete the census form): • Ability to route respondent-generated email contacts to CSRs; • Ability to receive emails from respondents by the census form website; • Ability to integrate with CSR Desktop Application; • Ability to integrate the email channel with WFM; • Ability to capture and store data related to inbound email (paradata); • Ability to capture and store data related to outbound email (paradata); • Ability to integrate the email channel with Quality Management System; • Ability to support automated reply email based on the content of the inbound email; and • Ability to send respondents an automated acknowledgement of their email with an expected reply timeframe
Automated Outbound Dialing System	A voice Outbound Contact Center equipped with an outbound calling system will support the 2020 Census Outbound Operations. The outbound system has the ability to function in multiple modes: • Predictive Mode: Uses algorithms to increase CSR productivity and minimize the time between calls for CSRs. The systems will launch more outbound calls than available CSRs based on its algorithm. This can result in no CSR being

System	Description
	available when a respondent answers the outbound call. • Progressive Mode: Uses a one-CSR-to-one-outbound-call model. The system will make sure a CSR is available for every outbound call launched. This minimizes CSR productivity but improves quality by eliminating the possibility that no CSR is available to receive an answered outbound call. • Preview Mode: Sends a call record to a CSR and gives them the ability to launch the outbound call. This allows the CSR to read the available information prior to the outbound call being made to the respondent. Census Outbound Operations is planning to use the Progressive Mode of outbound dialing to be sure that respondents are connected to CSRs. The outbound system that supports Census Outbound Operations will have the following call handling capabilities, functions, and features: • Ability to perform robo-calls: the ability to make multiple (large--scale) simultaneous calls in order to play prerecorded messages to callers; • Ability to deliver an answered call to a CSR or present the respondent a recorded message in less than two seconds; this is considered a "live" or "connected" call; • Ability to automatically cancel the call before a respondent connection and reschedule the call for a later time if no CSR is available to take the live contact; • Ability to detect answering machines and voice mail and specify how these calls will be handled; • Ability to leave messages asking respondents to call back; • Ability to run a campaign where automated messages can be left with just answering machines or with just voice mail or with both; • Ability to allow the system to program/record/implement case- and language-specific messages that it will play to

System	Description
	either an answering machine or a live voice; • Ability to recognize a telephone company signal, such as, but not limited to, "this number is no longer in service,"" and flag the record with the appropriate call code; • Ability to screen busy, disconnect, and other intercept recordings and ringing, no answer, and voice mail; • Ability to set an automatic time cutoff specified by the local time zone of the called number (local time is defined as the time associated with the address specified in the case); • Ability to allow for call-back scheduling and appointment setting performed by a CSR or by a respondent waiting in the queue; • Ability to interface with other systems to receive numbers to call; • Ability to track each call made and its disposition; • Ability to present a 2020 Census form relevant to the call (if a call is about inconsistencies in an existing form, the system will present the existing form when a call is connected to the CSR); • Ability to set operational modes as desired, such as the predictive, progressive, and preview modes of outbound operation; • Ability to associate paradata with an outbound contact; and • Ability to display Government-approved Caller ID; The CQA Program will provide the exact wording for the Caller-ID, such as "Census Bureau" or "2020 Census."
Outbound Case Management	An Outbound Case Management Systems (CMS), which will be used to track actions taken to resolve outbound cases; at minimum, the CMS will track the following minimum set of data points: • Time and date of each attempt to contact the respondent; • Outcome of each contact; • Case status; and

System	Description
	• Work Log to store relevant information. Each case will contain information regarding the nature of the follow-up as well as logistic considerations such as the number of allowed attempts, times when calls can be made, and other pertinent information. The outbound systems will use this information to schedule and place outbound calls.
Workforce Management System (WFM)	A WFM System is a command center function and system customized to support the CQA Inbound and Outbound Operations and the WFM staff to operate it. The WFM system supports the following minimum set of functions: • Inbound and outbound contact and staff forecasting; • CSR Scheduling; • Real-time Schedule Adherence; • Workforce Management Methods & Procedures; • Shift Adjustment Management (Attendance Reporting); and) • Development of Multichannel Workload Model.
Quality Management System & Contact Analytics System	A Quality Management System is a command center function and system customized to support the CQA Inbound and Census Outbound Operations and the staff to operate it. The Quality Management System supports the following minimum set of functions: • Contact recordings; • CSR Quality Scorecard; • Quality Calibration Sessions; • Remote monitoring to allow CQA Program Management staff or other Census Bureau personnel not stationed at contractor's or PMO facilities to monitor, at minimum, live calls; • Coaching of CSRs on Contact Quality/Data Quality; • Multichannel Contact Monitoring (web chat, email, etc.); and.) • Quality Standards, Methods & Procedures.

System	Description
Performance Management System	The Command Center staff and resources also support the following additional quality-related activities: • SLA Management & Measurement; • Real Time Contact Center Statistics; • CSR Quality Scorecard; • Real Time Performance Monitoring; • Performance Management Standards, Methods & Procedures; and • Command Center Operations Meetings.
Speech/Text/Screen Analytics System	The Command Center staff and resources also support a speech analytics solution with the following minimum set of features: • Ability to detect irate callers in real time and apply customer-defined treatments to such calls (for example, immediately transfer to a supervisor or mark the contact for quality monitoring); • Ability to detect certain phrases or issues in the course of a call, chat, or email such as the most frequent questions that respondents mention; • Ability to analyze the CSR screen to determine how systems are used and how frequently; and • Ability to determine which topics are trending and the major reasons for contacts.
Management Reporting System (MRS)	The MRS displays and reports contact center management information under the following three categories: • Real-Time; • Near Real-Time; and • Historical. For these categories, the MRS allows statistical support (e.g., averages, max, and min) and the available data grouping options (e.g., skill, enterprise, location).

System	Description
	Real-time Reporting – The MRS supports the reporting and displaying of information in: • Real-time (15 second refresh interval); • Rolling five minutes (15 second refresh interval); • Current half hour; • Current day; and • Any data not available in real-time is in near real-time. The MRS reports the following fields/elements for Skill Group Level Reporting: • Number of Ready CSRs; • Number of CSRs in each state (such as idle or active); and • Average duration in each state. The MRS identifies the following fields/elements for Call Type Level Reporting: • Number of calls in progress; • Number of calls in queue; • Number of calls at CSRs; • Number of calls on hold; • Number of CSRs in after-call work for call type; • Number of calls abandoned; • Number of calls handled; and • Interval time associated with these categories is available with total, longest, and average times required. The MRS track the following data elements associated with email and chat sessions: • Type (email, chat); • Arrival date and time; • CSR handling the conversation;

System	Description
	• Duration; • Wrap-up time; • Disposition (completed, transferred to a different channel); • Script used; and • Reason for contact. Historical Reporting Requirements – The MRS reports historical contact information: • Aggregated by half-hour, day, week, month, year • Aggregated by date ranges The MRS identifies the following fields/elements for contact reporting: • Number of contacts offered; • Number of contacts queued; • Number of calls placed on hold; • Number of contacts abandoned; • Number of contacts handled; and • Interval time associated with these categories is available with total, longest, and average times required. Outbound Reporting – The MRS captures and reports the following outbound call information: • Disposition codes; • Hang-up by respondent; • System hung up because no CSR was available; • Ringing, no answer; • Busy signal; • Out-of-Service telephone line; • Invalid telephone number; • Telephone Company recording; • System aborted during hold message;

System	Description
	• System aborted as CSR was connected; • Fault in telephone line or hardware; • Fault, system aborted during dialing or ringing; • Left message on answering machine; • Date; • Time; • Case information; • Phone number dialed; • Queue time; • Script time; • Talk time; • Hold time; and • Wrap time. The above information is traceable to a unique case number maintained in the Case Management System (CMS). The MRS will maintain CQA contract artifacts including reports, deliverables, and others, as requested by the Census Bureau.
Toll-Free Telephone Service (Census owned and provided)	Census will provide Verizon's Toll-Free Telephone Service and ongoing management to support CQA Operations. This includes the toll-free telephone number required for each CQA supported language and the following network features: • Time-based routing: o Time of day; o Day of week; o Day of month; and o Holiday/specific day. • Call allocation based on percentage of call arrivals and time-based routing algorithm above; • Routing based on thresholds, such as number of incoming calls, to destinations and treatments; • Ability to manually reroute traffic in real time to destinations and treatments;

System	Description

	• Messaging – ability to record a message and insert it into the flow in real time (part of call treatments);
	• Interval (30 minutes or less) reporting:
	  o Placed calls;
	  o Blocked calls; and
	  o Routed calls.
	• Call statistics (based on custom time periods):
	  o Number of calls routed; and
	  o Number of calls with treatment other than routed to destination.
	• Ability to pass ANI; and
	• Web-based access to real time and historical reporting, including call detail records.